

ARTICLE: KINDS / TYPES OF NUMBERS IN MATHEMATICS / COUNTDOWN OF ALL CLASSES / LEVELS

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Some basic definitions of terms

NUMBERS – The Basics

INTEGERS – Any of the positive and negative whole numbers, ..., -3, -2, -1, 0, +1, +2, +3, ... The positive integers, 1, 2, 3..., are called the natural numbers or counting numbers. The set of all integers is usually denoted by Z or Z^+

DIGITS – the 10 symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9, used to create numbers in the base 10 decimal number system.

NUMERALS – the symbols used to denote the natural numbers. The Arabic numerals 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 are those used in the Hindu-Arabic number system to define numbers.

Types of Numbers

1. NATURAL NUMBERS
2. WHOLE NUMBERS
3. RATIONAL NUMBERS
4. FRACTIONAL NUMBERS
5. IRRATIONAL NUMBERS
6. TRANSCENDENTAL NUMBERS
7. REAL NUMBERS
8. ABUNDANT NUMBERS
9. ALGEBRAIC NUMBERS

10. ALMOST PERFECT NUMBER
11. ALPHAMETIC NUMBERS
12. AMICABLE NUMBERS
13. APOCALYPSE NUMBER
14. ARRANGEMENT NUMBERS
15. AUTOMORPHIC NUMBERS
16. BEAST NUMBER
17. BINARY NUMBERS
18. CARDINAL NUMBERS
19. CATALAN NUMBERS
20. CHOICE NUMBERS
21. CIRCULAR PRIMES
22. COMPLEX NUMBERS
23. COMPOSITE NUMBERS
24. CONGRUENT NUMBERS
25. COUNTING NUMBERS
26. CUBIC NUMBERS or CUBES
27. CYCLIC NUMBERS
28. DECIMAL NUMBERS
29. DEFICIENT NUMBERS
30. DIGITAL ROOT
31. EGYPTIAN FRACTIONS
32. EQUABLE TRIANGLES
33. EQUIVALENT NUMBERS
34. EVEN NUMBERS
35. FACTOR NUMBERS
36. FACTORIAL NUMBERS
37. FERMAT NUMBERS
38. FIBONACCI NUMBERS
39. FIGURATE NUMBERS
40. FRACTIONAL NUMBERS
41. FRIENDLY NUMBERS
42. GENERATING NUMBERS
43. GNOMON NUMBERS
44. GOLDEN NUMBER
45. GYRATING NUMBERS
46. HAPPY NUMBERS

47. HARDY-RAMANUJAN NUMBERS
48. HERONIAN NUMBERS
49. IMAGINARY NUMBERS
50. INFINITE NUMBERS
51. INTEGER NUMBERS
52. IRRATIONAL NUMBERS
53. KEITH NUMBERS
54. LEAST DEFICIENT NUMBERS
55. LUCAS NUMBERS
56. MERSENNE NUMBERS
57. MONODIGIT NUMBERS
58. MULTIPowered NUMBERS
59. MULTIPLY- PERFECT NUMBERS
60. NARCISSISTIC NUMBERS
61. NATURAL NUMBERS
62. OBLONG NUMBERS
63. OCTAHEDRAL NUMBERS
64. ODD NUMBERS
65. ORDINAL NUMBERS
66. PALINDROMIC NUMBERS
67. PANDIGITAL NUMBERS
68. PARASITE NUMBERS
69. PASCAL'S TRIANGLE NUMBERS
70. PENTATOPE NUMBERS
71. PERFECT NUMBERS
72. PERFECT NUMBERS (Almost)
73. PERIODIC NUMBERS
74. PERMUTABLE PRIME
75. PERSISTENT NUMBERS
76. POLYGONAL NUMBERS
77. Square Numbers
78. Pentagonal Numbers
79. POWERFUL NUMBER
80. PRIME NUMBERS
81. PRODUCT PERFECT
82. PRONIC NUMBERS
83. PSEUDOPRIME NUMBERS

84. PYRAMIDAL NUMBERS
85. PYTHAGOREAN NUMBERS
86. QUASIPERFECT NUMBERS
87. RANDOM NUMBERS
88. RATIONAL NUMBERS
89. REAL NUMBERS
90. RECTANGULAR NUMBERS
91. RELATIVELY PRIME NUMBERS
92. REPUNIT NUMBERS
93. SEMI-PERFECT NUMBERS
94. SEQUENCE NUMBERS
95. SOCIABLE NUMBERS
96. SQUARE NUMBERS
97. SQUAREFULL NUMBERS
98. TAG NUMBERS
99. TAXICAB NUMBERS
100. TETRAHEDRAL NUMBERS
101. TRANSCENDENTAL NUMBERS
102. TRAPEZOIDAL NUMBERS
103. TRIANGULAR NUMBERS
104. TWIN PRIME NUMBERS
105. TRIPLE PRIME NUMBERS
106. UNIT FRACTION NUMBERS

WORKSHEET NEW COUNTDOWN **SECOND EDITION OXFORD CLASS 4**

NOTES/ SOLVED EXERCISES /WORKSHEET NEW COUNTDOWN SECOND
EDITION OXFORD CLASS / GRADE / LEVEL 4
PART ONE:

NUMBERS

Getting ready

5-Digit Numbers: Notation

5-Digit Numbers: Place Value

Introducing One Lakh

One Lakh Equals One Hundred Thousand

International Place Value: 6-Digit Numbers 1-10

THE FOUR OPERATIONS

5-Digit second 6-Digit Numbers

Addition: 5-Digit second 6-Digit Numbers

Subtraction: 5-Digit second 6-Digit Numbers

Addition second Subtraction

Welcome to Multiplication Hall!

Multiplication

Multiplication by 10 second Its Multiples

Multiplying by 2-Digit Numbers

Multiplication: Some New Words

Multiplicands of 4 Digits second Multipliers of 3 Digits

Review

Multiplication second Division with

Bigger Numbers

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Divisors with 2 Digits

Dividends with 4 Digits

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Using Division in Word Problems

Dividing by 10 second Its Multiples

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Playing with Time: Word Problems

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Decimals: Metres second Centimetres

Decimals second Metres: The Four Operations

Decimal Fun Page!

Decimals: Tenths, Hundredths, second Thousandths

Tenths, Hundredths, second Thousandths

Thinking about Decimal Places ,

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The Metric System

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Finding the Right Angle!

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Meet Mick, Mandy, Meg, Mani, second Mona
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GETTING READY

1. MAGIC SQUARES

NOW COMPLETE THESE MAGIC SQUARES.

A 7 8 B 6 14

2 6 10 8

4 5 2

c 15 22 D 14 13 18

18 15

21 12

ANSWERS:s:

A 7 8 3 B 6 4 14

2 6 10 16 8 0

9 4 5 2 12 10

c 15 22 17 D 14 13 18

20 18 16 19 15 11

19 14 21 12 17 16

2. MATHS IN YOUR HEAD!

WORK OUT THESE SUMS IN YOUR HEAD, SECOND WRITE THE ANSWERS:S
IN YOUR NOTEBOOK.

a. 100 less than 40188

b. $28 + \text{————} = 45$

c. Roman number for 6 s

- d. 3 hundreds minus 7 tens
 e. $81 - \text{————} = 22$
 f. Write in numerals: seven thousand second nine
 g. 2 hour = minutes
 h. 3 years = ———- months
 i. Roman number for 24
 j. Write the next number: 130, 1 10, 90, ———
 k- $\frac{7}{8} - \frac{4}{8}$
 l. Write the missing numbers: 1636, 1639, ———, 1645
~~-1648———-~~
 m. The total cost of three ice creams at Rs 12 each.
 n. What is the cost of each pencil if 6 pencils cost Rs 36.60?

ANSWERS:S:

- a.3918 b.17 c.vi d. $300 - 70 = 230$ e.59 f.7009 g.45 h.36 i. XXVI
 j.70 k. $\frac{3}{8}$ l.1642,648

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GETTING READY

3. WRITE IN WORDS.

a. 4957

ANSWERS:: four thousands nine hundred and fifty seven.

b. 5012

ANSWERS:: five thousands and twelve.

C. 7408

ANSWERS:: Seven thousands four hundred and eight.

d. 3001

ANSWERS:: three thousands and one.

4. WRITE IN NUMBERS.

a. nine thousands and nine

ANSWERS:: 9009

b. five thousands second twenty-four

ANSWERS:: 5024

c. seven thousands nine hundred second thirty-seven

ANSWERS:: 7937

5. WRITE THE MISSING NUMBERS.

- a. $\text{-----} - 8 = 12 - 5$
- b. $450 + \text{-----} = 910$
- c. $580 \div 10 = \text{-----}$
- d. $325 \text{ cm} = \text{m} \text{-----} \text{ cm}$
- e. $12 \times \text{-----} = 6 \times 8$
- f. $3660 \text{ ml} = \text{L} \text{-----} \text{ ML}$
- g. $9 \text{ kg } 7 \text{ g} = \text{-----} \text{ g}$
- h. $9 \text{ m } 3 \text{ cm} = \text{-----} \text{ cm}$
- i. $1 \text{ h } 45 \text{ min} = \text{-----} \text{ min}$
- j. $600 \div 10 = 10 \times \text{-----}$

ANSWERS: S: (a-15) (b-460) (c-58) (d-3m 25cm) (e-4) (f-3 L 660 ML) (g-9007) (h-903) (i-105) (j-6)

6. GUESS WHICH LINE IS LONGER. THEN MEASURE EACH LINE SECOND WRITE THE LENGTHS IN CM.

- a. $\square \text{-----} \square$
- b. $> \text{-----} <$

ANSWERS: a. 5.1cm b. 4.9cm

7. DRAW THESE LINE SEGMENTS.

- a. $AB = 4 \text{ cm}$ b. $PQ = 14 \text{ cm}$

ANSWERS: a. 4cm b. 14cm

8- ANSWERS: THESE QUESTIONS.

- a. If 10 books cost Rs 1540, how much does 1 book cost?
- b. If Rehan saves Rs. 275 every month, how much does he save in a year?
- c. If 4 boxes of equal weight weigh 1 kg 792 g altogether, how much does one box weigh?
- d. What is the largest number these numerals: 3, 0, 0, 8?

ANSWERS:

- a. cost of 10 books = Rs.1540 so cost of 1 book = $1540 \div 10 = \text{Rs.}154$

- b. amount which Rehan save 5 every month = Rs.775 so in a year
 , amount saved = $12 \times 775 = \text{Rs.}9300$
- c. numbers of boxes 4 total weight of 4 boxes 1 kg 792g

0kg 448g

4 1 7 9 2

0

1 7

1 6

1 9

1 6

3 2

3 2

9- COPY AND MULTIPLY.

a. 197

X 24 b. 248

X 33

1 9 7

× 2 4

7 8 8

+ 3 9 4

= 4 , 7 2 8

248

× 33

744

744

8,184

10- COPY AND DIVIDE.

a. 6/476

0 7 9

6 4 7 6

4 7

4 2

5 6

5 4

2

b. $8/592$

0 7 4

8 5 9 2

5 9

5 6

3 2

3 2

c. $5/405$

0 8 1

5 4 0 5

4 0

4 0

0 5

5

11- COPY SECOND ADD.

a. $2/3 + 1/3$

SOLUTION:

$$2/3 + 1/3 = 3/3 = 1$$

b. $9/10 + 1/10$

SOLUTION:

$$9/10 + 1/10 = 10/10 = 1$$

c. $4/7 + 2/7$

SOLUTION:

$$4/7 + 2/7 = 6/7$$

d. $5/11 + 2/11$

SOLUTION:

$$5/11 + 2/11 = 7/11$$

12- WRITE FRACTIONS IN THE BLANKS.

- a. $\frac{2}{(3)}$, $\frac{4}{6}$, $\frac{6}{9}$, _____ , _____ , $\frac{12}{18}$
b. $\frac{1}{5}$, $\frac{2}{10}$, $\frac{3}{15}$, _____ , _____ $\frac{6}{30}$

ANSWERS:

- a. $\frac{2}{(3)}$, $\frac{4}{6}$, $\frac{6}{9}$, $\frac{8}{12}$, $\frac{10}{15}$, $\frac{12}{18}$
b. $\frac{1}{5}$, $\frac{2}{10}$, $\frac{3}{15}$, $\frac{4}{20}$, $\frac{5}{25}$, $\frac{6}{30}$

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13- WRITE NUMBERS IN THE BLANKS.

- a. 3779, 3789, _____ , _____ -3819
b. 5702, 5802 , _____ , _____ 6102
c. 1101 , 2101 , _____ , _____ , _____

ANSWERS:

- a. 3779, 3789, 3799, 3809, 3819
b. 5702, 5802 , 5902, 6002, 6102
c. 1101 , 2101 , 3101, 4101, 5101

14- COUNT BACKWARDS SECOND WRITE NUMBERS IN THE BLANKS.

- 9841, 9831, _____ , _____ , 9801
4394, 4294, _____ , 4094,
6530, 6525, _____ , _____ , 6510
7619, 7519, _____ , _____ , _____

ANSWERS:

- 9841, 9831, 9821, 9811, 9801
4394, 4294, 4194, 4094, 3994
6530, 6525, 6520, 6515, 6510
7619, 7519, 7419, 7319, 7219

15- WRITE THE PLACE VALUE OF 7 IN EACH OF THESE NUMBERS.

- a. 675
b. 5687
c. 7002

ANSWERS:

- a. PLACE VALUE OF 7 IN 675 = hundredth

- b. PLACE VALUE OF 7 IN 5687= unit
- c. PLACE VALUE OF 7 IN 7002= ten

16- WRITE IN EXPANDED FORM.

- a. 5692
- b. 8601
- c. 4029
- d. 1001
- e. 3728
- f. 6907

ANSWERS:

- a. $5692 = 5000 + 600 + 90 + 2$
- b. $8601 = 8000 + 600 + 0 + 1$
- c. $4029 = 4000 + 0 + 20 + 9$
- d. $1001 = 1000 + 0 + 0 + 1$
- e. $3728 = 3000 + 700 + 20 + 8$
- f. $6907 = 6000 + 900 + 0 + 7$

17- WRITE:

- a. The largest 2-digit number
- b. The smallest 3-digit number
- c. The largest 3-digit number
- d. The smallest 4-digit number

ANSWERS: (a-99)(b-100)(c-999)(d-1000)

18- Using the digits 2, 5, 6, and 9, write as many 4-digit numbers as you can. Which is the largest number you can write? Which is the smallest?

ANSWERS:

2569, 2596, 2559, 2695, 2956, 2965, 5269, 5296, 5629, 5692, 9652, 9625, and so on——

largest number=2569

smallest number=9652

19- WRITE IN EXPANDED FORM.

7094.....7000+0+90+4

- a. 8695
- b. 3292
- c. 9351
- d. 5064
- e. 3195
- f. 7676

ANSWERS:

- a. $8695=8000+600+90+5$
- b. $3292=3000+200+90+2$
- c. $9351=9000+300+50+1$
- d. $5064=5000+0+60+4$
- e. $3195=3000+100+90+5$
- f. $7676=7000+600+70+6$

20- Using the digits 1, 7, 3, second 8, write as many 4-digit numbers as you can, making sure that each ' number is placed in periods.

Then add the Largest number to the smallest number.

ANSWERS:

1378, 1387, 3178, 3187, 1873, 1837, 1738, 1783, 3817, 3871, 8731, 8713 --- largest number=8731

smallest number=1378

sum of largest number and smallest number= $8731+1378=10109$

PAGE: 4 5-DIGIT NUMBERS: NOTATION

1- WRITE THE NUMBER NAMES (TWELVE THOUSAND 12,000)

- a. 20,000
- b. 80,000
- c. 14,000
- d. 57,000

ANSWERS:

TWENTY THOUSAND

EIGHTY THOUSAND

FOURTEEN THOUSAND

FIFTY- SEVEN THOUSAND

2-WRITE THE NUMBER, PLACING THE VCOMMA CORRECTLY.

eleven thousands 11,000

eighteen thousands.....

twenty-three thousands

forty-two thousands

seventy thousands.

fifty thousands

forty-four thousands

ANSWERS: a. 18,000 b. 23,000 c. 42,000 d. 70,000 e. 50,000 f. 44,000

3. PLACE THESE NUMBERS IN PERIODS SECOND WRITE THEIR NAMES.

84,067 . . . eighty-four thousand and sixty-seven

a. 23 124

b. 53400

c.49,639

d. 80964

e. 15 503

f. 12550

ANSWERS:

a. 23 124= twenty – three thousand, one hundred and twenty-four

b. 53400= fifty- three thousand and four hundred

c.49,639= forty-nine thousand , six hundred and thirty-nine

d. 80964= eighty thousand , nine hundred and sixty-four

e. 15 503= fifteen thousand , five hundred and three

f. 12550= twelve thousand , five hundred and fifty

4. WRITE THE NUMBER, PLACING THE COMMA CORRECTLY.

* forty-three thousands, two hundred and ten 43,210

eighty-one thousands, six hundred second forty-seven

nineteen thousands second twenty-five.

Seventy thousands one hundred second sixteen

ANSWERS: a. 81,647 b. 19,025 c. 70,116

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5-DIGIT NUMBERS: PLACE VALUE

1- WRITE THE VALUE OF THE CIRCLED DIGIT.

48397 --9 tens or 90

a. 30,029

b. 27,090

c. 17,005

d. 31,561

e. 94617

f. 84,069

ANSWERS: a. 0 hundred b. 20000 c. 0 ten d. 1 unit e. 6 hundred
f. 4000s

2- WRITE THE NUMBERS THAT MATCH THESE EXPANDED FORMS.

$30,000 + 5000 + 800 + 20 + 6 = 35,826$

$90,000 + 2000 + 400 + 30 + 0$

$80,000 + 40 + 600 + 40 + 2$

$50,000 + 0 + 700 + 0 + 3$

$40,000 + 3000 + 100 + 0 + 0$

$70,000 + 0 + 0 + 20 + 7$

$20,000 + 4000 + 300 + 0 + 9$

$60,000 + 8000 + 0 + 80 + 8$

ANSWERS: a. 92,430 b. 80,642 c. 50,703 d. 43,100 e. 70,027 f.
24,309 g. 68,088

3- WRITE THESE NUMBERS IN EXPANDED FORM.

69,504 — $60,000 + 9000 + 500 + 0 + 4$

a. 71,623

b. 82,590

c. 60,902

d. 14,075

e. 51,029

f. 10,503

g. 40,505

h. 34,650

i. 99,099

j. 12,470

ANSWERS:

a. $70000 + 1000 + 600 + 20 + 3$

b. $80,000 + 2000 + 500 + 90 + 0$

c. $60000 + 0 + 900 + 0 + 2$

d. $10000 + 4000 + 0 + 70 + 5$

e. $50000 + 1000 + 0 + 20 + 9$

f. $10000 + 0 + 500 + 00 + 3$

g. $40000 + 0 + 500 + 0 + 5$

h. $30000 + 4000 + 600 + 50 + 0$

i. $90000 + 9000 + 0 + 90 + 9$

j. $10000 + 2000 + 400 + 70 + 0$

4- WRITE THE PREDECESSOR OF EACH NUMBER.

56,800 —56,700

a. 85,487

b. 64,600

c. 16,0101

d. 32,4803

e. 51,300

f. 99,000

g. 48290

h. 80,000

ANSWERS:

a. 85,486

b. 64,599

c. 16,009

d. 32,479

e. 51,299

f. 98,999

g. 48289

h. 79,999

5- WRITE THE SUCCESSOR OF NUMBER.

30 999— 31000

a. 42,489

- b. 90,999
- c. 70,609
- d. 19,009
- e. 18,099
- f. 10,000
- g. 23,999
- h. 37,999

ANSWERS:

- a. 42,490
- b. 91000
- c. 70,610
- d. 19,010
- e. 18,100
- f. 10,001
- g. 24,000
- h. 38,000

6- FILL IN <,>, OR =

- 47,204
- 80, 100
- 23,020
- 19,758
- 94,065
- 82, 1 93
- 34,201
- 10, 010 42,704
- 80, 11 0
- 23,002
- 1 9,758
- 94,605
- 81,193
- 43,203
- 10,110

ANSWERS: a. > b.< c. > d.= e.< f. > g.< h. <

INTRODUCING ONE LAKH

1- WRITE THE NUMBER NAMES. (2,00,000 two lakh)

- a. 4,00,000
- b. 7,00,000
- c. 5,00,000
- d. 11,00,000

ANSWERS:

a. four lakhs b. seven lakhs c. five lakhs d. eleven lakhs

2- WRITE THE NUMBER, PLACING YOUR COMMAS CORRECTLY. (five Lakh 5,00,000)

- a. three Lakh
- b. nine lakh
- c. one Lakh
- d. twelve Lakh

ANSWERS:

a. 3,00,000 b. 9,00,000 c. 1,00,000 d. 12,00,000

3- ADD THE MISSING COMMAS (405962 -- 4,05,962)

- a. 340816
- b. 290062
- c. 900700
- d. 3010 10

ANSWERS:

a. 3,40,816 b. 2,90,062 c. 9,00,700 d. 3,01,010

4- PLACE THESE 6-DIGIT NUMBERS IN PERIODS SECOND WRITE THEIR NAMES.

4,60,293 four lakh, sixty thousand , two hundred second ninety-three

- a. 5 1 0937
- b. 906403
- c. 19602 1
- d. 240682

ANSWERS:

a. 5 1 0937 = Five lakhs, Vten thousand, nine hundred and thirty seven.

b. 906403= Nine lakh, six thousand, four hundred and three

- c. 19602 = One lakh ninety six thousand and twenty-one.
d. 240682 = Two lakh forty thousand six hundred and eighty two.

5- WRITE THE NUMBER, PLACING YOUR COMMAS CORRECTLY.

three Lakh, eighty-two thousand second twenty-seven 3,82,027

- a. five Lakh, nineteen thousand, three hundred second two
b. nine lakh, two thousand, five hundred second sixteen
c. four Lakh, nine hundred second fifty-one

ANSWERS:

- a. 5,19,302 b. 9,02,516 c. 4,00,951

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ONE LAKH EQUALS ONE HUNDRED THOUSAND

1- PLACE THESE 6-DIGIT NUMBERS IN PERIODS, FIRST IN THE PAKISTANI
WAY SECOND THEN IN THE INTERNATIONAL WAY. 639243 (I) 6,39,243
(2) 639,243

- a. 854020
b. 405300
c. 703164
d. 162802
e. 300698
f. 820036

ANSWERS:

- a. 8,54,020 – 854,020 b. 4,05,300 – 405,300 c. 7,03,164 –
703,164 d. 1,62,802 – 162,802 e. 3,00,698 – 300,698 f. 8,20,036

2- WRITE THESE NUMBERS ACCORDING TO INTERNATIONAL PERIODS.

6,01,584 601,584

- a. 7,53,028
b. 2,70,042
c. 4,00,028
d. 9,09,510

ANSWERS:

- a. 753,028
b. 270,042
c. 400,028
d. 909,510

3- CHANGE THESE NUMBERS ACCORDING TO PAKISTANI PERIODS. 758,06

I 7,58,06 I

- a. 104,695
- b. 450,104
- c. 500,629
- d. 642,003

ANSWERS:

- a. 1,04,695
- b. 4,50,104
- c. 5,00,629
- d. 6,42,003

4- WRITE THE NUMBER NAMES 638,342 SIX HUNDRED SECOND THIRTY-EIGHT THOUSAND, NINE HUNDRED SECOND FORTY-TWO

- a. 422,3 1 8
- b. 909,999
- c. 351,602
- d. 500,384

ANSWERS:

- a- Four hundred and twenty-two thousand, three hundred and eighteen.
- b- Nine hundred and nine thousand, nine hundred and ninety.- nine.
- c- Three hundred and fifty-one thousand, six hundred and two.
- d- Five hundred thousand, three' hundred and eighty-four.

5- WRITE THE NUMBERS, PLACING YOUR COMMAS CORRECTLG. FIVE HUNDRED SECOND TWENTG THOUSAND, SIX HUNDRED SECOND THIRTY-ONE
520,631

- a. four hundred second thirty-eight thousand, one hundred second eighteen
- b. six hundred second ninety-nine thousand, five hundred second seventy

ANSWERS:

a. 4,38,118 b. 6,99,570

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INTERNATIONAL PLACE VALUE: 6-DIGIT NUMBERS

1- WRITE THE VALUE OF THE CIRCLED DIGIT.

54,629 — five hundred thousand or 500,000

a. 629,30 I

b. 205,4 83

c. 730, 598

d. 800,269

ANSWERS:

a. 629,30 I = nine thousand

b. 205,4 83= four thousand

c. 730, 598 = seven thousand

d. 800,269= eight thousand

2- WRITE THE NUMBERS THAT MATCH THESE EXPANDED FORMS

$600,000 + 20,000 + 8000 + 400 + 60 + 0 = 628,460$

$700,000 + 50,000 + 1000 + 300 + 0 + 8$

$100,000 + 90,000 + 0 + 200 + 90 + 3$

$500,000 + 70,000 + 800 + 0 + 50 + 2$

$400,000 + 0 + 9000 + 600 + 80 + 5$

$200,000 + 60,000 + 700 + 40 + 0$

$300,000 + 10,000 + 5000 + 100 + 0 + 6$

$300,000 + 10,000 + 5000 + 900 + 90 + 9$

$800,000 + 70,000 + 100 + 70,000 + 2000 + 100 + 70 + 9$

ANSWERS:

(a-751308) (b-190293) (c-578052) (d-409685) (e-260740) (f-315106) (g-999999) (h-872172)

3- WRITE THESE NUMBERS IN EXPANDED FORM.

691,053 — $600,000 + 90,000 + 1000 + 0 + 50 + 3$

a. 752,119

b. 120,640

c. 804,623

d. 358,037

e. 950,85 1

f. 606,666

ANSWERS:

a. $752,119 = 700,000 + 50,000 + 2,000 + 100 + 10 + 9$

b. $120,640 = 100,000 + 20,000 + 0 + 600 + 40 + 0$

c. $804,623 = 800,000 + 0 + 4,000 + 600 + 20 + 3$

d. $358,037 = 300,000 + 50,000 + 8,000 + 0 + 30 + 7$

e. $950,851 = 900,000 + 50,000 + 0 + 800 + 50 + 1$

f. $606,666 = 600,000 + 0 + 6,000 + 600 + 60 + 6$

4-WRITE THE SUCCESSOR OF EACH NUMBER. 151,999 152,000

a. 484,303

b. 399,998

c. 502,999

d. 246, 1 89

ANSWERS:

a. 484,304

b. 399,999

c. 503,000

d. 246, 1 90

5- WRITE THE PREDECESSOR OF EACH NUMBER. 380,000 — 379,999

a. 963,380

b. 102, 100

c. 593,000

d. 899,090

ANSWERS:

a. 963,379

b. 102, 099

c. 592,999

d. 899,089

6-WRITE IN NUMBERS.

seven hundred second fifty thousand second sixty — 750,060 ,

a. one hundred second forty-eight thousand, four hundred second twelve

b. two hundred second thirty thousand second six

c. six hundred second two thousand, five hundred second seventy

ANSWERS:

- a. 148,412
- b. 230,006
- c. 602,570

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INTERNATIONAL PLACE VALUE: 6-DIGIT NUMBERS

7- FIND THE VALUE OF THESE EXPANDED FORMS.

$$600,000 + 30,000 + 7000 + 50 + 7 = 637,057$$

- a. $100,000 + 20,000 + 5000 + 400 + 20 + 6$
- b. $200,000 + 40,000 + 7000 + 300 + 7$

ANSWERS:

(a-125,426) (b-247,307)

8- WRITE NUMBERS IN THE BLANKS.

$$444,406 = 400,000 + \text{---} + 4000 + 400 + \text{---} + 6$$

40,000 and 90

- a. $326,411 = \text{---} + 20,000 + 6000 + \text{---} + 10 + 1$
- b. $560,312 = \text{---} + 60,000 + 3000 + \text{---} + \text{---}$
- c. $843,029 = 800,000 + \text{---} + 3000 + \text{---} + 9$
- d. $305,699 = 300,000 + \text{---} + \text{---} + 90 + 9$
- e. $999,999 = \text{---} + \text{---} + \text{---} + 900 + \text{---} + \text{---}$
- f. $480,003 = \text{---} + 80,000 + \text{---}$

ANSWERS:

- (a-300,000 - 400)
- (b-500,000 - 10 - 2)
- (c- 40,000 - 20)
- (d- 5000 - 600)
- (e-900,000 - 90,000 - 9000 - 90 - 9)
- (f- 400,000 - 3)

9- FILL IN < , > OR = (240,000 > 24,000)

$$870,500 \text{ --- } 807,500$$

$$121,500 \text{ --- } 121,500$$

$$199,584 \text{ --- } 189,589$$

$$158,603 \text{ --- } 158,603$$

$$305,001 \text{ --- } 305,001$$

ANSWERS:

(a- >)(b- =)(c - >)(d- >)(e- =)

10- ARRANGE IN ASCENDING ORDER

140,040 ; 104,440 ; 114,004 ; 4 1 0,440

...I04,440 ; 114,004 ; 140,040 ; 4 I 0,440

a. 502,398; 205,938; 520,480 ; 501,695

b. 462,591; 642,589; 458,431;824,951 ; 824,941

c. 10,000; 100,899; 101,010 ; I00,901; 101,100

d. 384,029; 348,290; 388,420 ; 346,999

e. I25,456; I24,546; 142,456 ; 124,654 ; 125,556

ANSWERS:

a. 205, 938; 501,695; 502,398; 520,480

b. 458,431; 62,591; 642,589; 824,941; 824,951

c. 100,899; 100,901; 101,000; 101,010; 101,100

d. 346,999; 348,290; 384, 029; 388, 429

e. 124,546;124,654; 125,456;125,556;142,456.

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5-DIGIT & 6-DIGIT NUMBERS

1- COUNTING IN HUNDREDS, WRITE NUMBERS IN THE BLANKS.

97,000;——— ; — ; —-

97,100; 97,200; Q7,300

102,700; 102,800; ——; ——

385,800; _____ ; _____ ; 386,100

422,900; _____ ; _____ ; _____ ;

909,800; —— ; ——; 910,100; ——-

ANSWERS:

a. 102,900; 103,000

b. 385,900; 386,000

c. 423,000; 423,100; 423,200 ‘

d. 909,900; 910,000; 910,200

2- COUNTING IN THOUSANDS, WRITE NUMBERS IN THE BLANKS.

98,000;—— ;——; 101,000 ——-99, 000; 100,000

79,800; 80,800; ——; 82,800

1144,250; ——; 116,250; 0

506,499; —; —; , 500,LIQQ;

ANSWERS:

81,800

b. 115,250, 117,250

c. 507,499, 500,499; 510,499

3- CIRCLE THE LARGEST NUMBER. 602,189; 620,198; 620,199

405,613; 406,513; 401,563

739,468; 739,648; 739,486

249,406; 249,946; 249,046

101,321; 110,123; 111,032

850,050; 805,550; 850,005

ANSWERS: (a-406,513) (b-739,648) (c-249,946) (d-111,032)
(e-850,050)

4- ARRANGE IN" DESCENDING ORDER.

584,622; 504,266; 604,626; 464,226 — 604,626; 504,266;
584,622 ; 464,226

48,504; 48,450; 47,950; 48,5 54

103,952; 130,995; 113,005 ; 133,050

465,0 1 5; 456, 1 50; 486,952 ; 406,250

998,889; 989,980; 989,990 ; 999,808; 909,898

26,103; 26,301; 26,113; 26,331; 26,003

ANSWERS:

a. 48,554; 48,504; 48,450; 47,950

c. 133,050; 130,995; 113,005; 103,952

d. 486,952; 465,015; 456,150; 406,250

e. 999,808; 998,889; 989,990; 1989,980; 909,898

5- LOOK AT THE NUMBERS, THEN REARRANGE THE DIGITS TO FORM (A)
THE SMALLEST AND (B) THE LARGEST POSSIBLE NUMBER.

142,657—(A) 124,567

(B) 765,421

- a. 1 35,027
- b. 989,884
- c. 1 78,964
- d. 625,589
- e. 24 1 ,698
- f. 78,463
- g. 234,580
- h. 848,332

Answer:

Smallest Biggest

1012357 531,720

488,899 998,884

146,789 987,641

125,689 986,552

124,689 986,421

34,678 87,643

023,458 854,320

233,488 884,332

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ADDITION: 5-DIGIT SECOND 6-DIGIT NUMBERS

1- WRITE VERTICALLY SECOND ADD

a. $6382 + 465 + 1496$ b. $2477 + 3193 + 1568$

6382

+ 465

+ 1 496

2477

+ 3193

+ 1568

8343 7238

2- ADD THESE TO FIND THE ODD ANSWERS: OUT' IN EACH GROUP OF SUMS.

a- (i) $375 + 405 + 163$

$$(ii) 516 + 185 + 252$$

$$(iii) 104 + 142 + 697$$

$$b- (i) 173 + 254 + 385$$

$$(ii) 478 + 136 + 188$$

$$(iii) 116 + 549 + 137$$

ANSWERS:

A

375

405

+163

516

185

+252

104

142

+297

943 odd 953 odd 643 odd

B

173

254

+385

516

185

+252

116

549

+137

812 even 802 even 802 even

3- FIND THE NUMERALS TO REPLACE THE * IN EACH SUM.

$$5 * 6$$

$$13 *$$

$$* 4 2$$

1099

a.

5 1 *

* 4 2

4 * 2 b.

* 3 2

2 * 3

6 1 *

1257 1186

c. 8 *5

32 *

*43 d.

4 * 2

* 6 3

6 1 *

1298 1797

SOLUTION:

a.

5 1 3

34 2

+4 0 2 b.

3 3 2

2 4 3

+ 6 1 1

1257 1186

c.

8 3 5

3 2 0

+1 4 3 d.

4 2 2

5 6 3

+ 6 1 2

1298 1797

4. COPY AND COMPLETE.

a. 43,846

+ 35,017

- b. 753,865
- + 169,530
- C. 465,357
- + 32,986
- d. 329,436
- + 281,274

ANSWERS:

(a- 78863) (b-923395) (c-498343) (d-610710)

5- WRITE VERTICALLY SECOND ADD (BE CAREFUL WITH THE COLUMNSL).

a. 24,639 + 10,251

24,639
 + 10,251

b. 50,466 + 18,974
 50,466
 + 18,974

c. 2,16,154 + 1,58,309

2,16,154
 + 1,58,309

d. 14,838 +249,501 + 108,633

14,838
 + 249,501
 + 108,633

e. 3,16,010 + 1,87,684 + 3472

3,16,010
 + 1,87,684
 + 3472

f. 204,469 + 20,496 + 2460
 204,469
 + 20,496
 + 2460

507166 227425

6- WRITE THE NUMBER WHICH IS:

500 more than 16,100 —16,600

200 more than 1,25,000

1000 more than 200,000

900 more than 4,60,100

400 more than 509,600

ANSWERS: (a- 125500) (b-201000) (c-461000) (d-510000)

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SUBTRACTION: 5-DIGIT SECOND 6-DIGIT NUMBERS

1- WRITE VERTICALLY SECOND SUBTRACT.

a. 1401 – 758

1401

– 758 b. 6008 – 4739

6008

– 4739

643 1269

c. 8003 – 5626

8003

– 5626 d. 3600 – 1498

3600

– 1498

2377 2102

2- WRITE THE NUMBER WHICH IS: 200 Less than 1100 — 900

a. 500 Less than 3160

b. 1000 less than 9686

ANSWERS: (a- 2660) (b-8686)

3- WRITE THE NUMBERS TO REPLACE THE * IN EACH SUM

a.

* 8 7 *

– 3 * * 2 8985

6362 b.

4**9

– *25*

4969

-3259

2623 2623 1710

c.

*9*8

– 5*2*

8928

-5520 d.

6 * 9 *

* 5 * 0 6897

-6520

3408 3408 377

4- COPY AND SUBTRACT, THEN CHECK.

8,45,289 2,24,28 I – 6,2 I ,008 +6,2 I ,008

2,24,28 I 8,45,289

a. 7,46,389 b. I,05,003

– 94,247 -87,675

6,52,142 17,328

c. 5,02,395 d. 7,62,043

– I,49, I46 – 5,09,567

353249 2,52,476

5- WRITE THESE VERTICALLY AND SUBTRACT. THEN CHECK BY ADDITION!

a. 36,738 – 1 2,849

36,738

– 1 2,849 b. 256,704 – 103,028

256,704

– 103,028 c. 2,00,03 1 – 1,89,764

2,00,03 1

– 1,89,764

23889 153676 10267

d. 500,000 – 360,824

500,000

– 360,824 e. 750,000 – 1 25,255

750,000

– 1 25,255

139176 624745

6- SUBTRACT 100 FROM EACH NUMBER.

a. 1,46,952

100 b. 500,000

100 c. 305, 103

100 d. 810,000

100

1,46,952 499900 305, 103 809900

7- SUBTRACT 500 FROM EACH NUMBER.

a. 385,620

500 b. 284,320

500 c. 505,400

500 d. 69,0 I 0

500

386120 283820 504900 68510

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ADDITION SECOND SUBTRACTION

1- WORD PROBLEMS

READ THE PROBLEMS CAREFULLY.

Decide whether you should add or subtract to solve them. Then work them out, making complete statements.

a. A factory made 64,750 jute bags on Monday and 51,060 more on Tuesday.

How many bags were made altogether?

b. In an election, Mr. Kamal got 1,56,720 votes and Mrs. Abid got 1,58,986 votes. Who got more votes? How many more?

c. A library has 46,918 books in English and 1,08,625 books in Urdu. What is the total?

number of books?

d. A shopkeeper earns Rs 170,920 in one year. If his expenses for the year are Rs 129,486, how much money does he save in a year?

e. Find the difference between the largest 4-digit number and the smallest 6-digit number.

f. A man bought a house for Rs 9,56,780. He sold it for Rs 1,20,000 less than the cost price. How much did he sell the house for?

2. BRUSH UP YOUR BRAINS!

SOLVE THESE QUICKLY IN YOUR HEAD. THEN WRITE THE ANSWERS IN YOUR NOTEBOOK.

a. $12,500 - ? = 5600$

b. 100 more than 99,990 equals — .

c. $10,000 + 6000 + 900 + 5 =$

d. In 129,564, the 2nd digit is for ————.

e. $49,396 - ? = 10,086$

f. What must be added to 100,050 to make 102,550?

g. $564 + 210 - 50 =$ ————.

h. A school needs Rs 4,00,000 for a new building. The children collect Rs 1,50,000. How much more money must be collected?

i. The largest 5-digit number plus the smallest 4-digit number equals ———.

j. $1280 - 400 + 35 =$ ————.

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WELCOME TO MULTIPLICATION!

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MULTIPLICATION

I. COPY SECOND MULTIPLY.

a. 115

X 6 b. 2 6 4

× 1 8

2 1 1 2

+ 2 6 4

= 4 , 7 5 2

c. 569

X 5

690

2845

d. 708

X 9 e.

5 7 3

× 1 6

3 4 3 8

+ 5 7 3

= 9 , 1 6 8

f.

4 5 1

× 2 2

9 0 2

+ 9 0 2

= 9 , 9 2 2

6372

2. SOLVE THE WORD PROBLEMS, MAKING COMPLETE STATEMENTS

a. If one book of stickers contains 78 stickers, how many stickers will there be in 5 books?

SOLUTION:

7 8

× 5

3 9 0

= 3 9 0

b. If a bar of soap costs Rs 49, how much will 6 such bars

cost?

SOLUTION:

$$\begin{array}{r} 49 \\ \times 6 \\ \hline 294 \\ = 294 \end{array}$$

c. There are 145 mangoes in one basket. How many mangoes are there in 32 baskets?

SOLUTION:

$$\begin{array}{r} 145 \\ \times 32 \\ \hline 290 \\ + 435 \\ \hline = 4,640 \end{array}$$

d. 48 chalk sticks are packed in one box. How many sticks in 26 such boxes?

SOLUTION:

$$\begin{array}{r} 48 \\ \times 26 \\ \hline 288 \\ + 96 \\ \hline = 1,248 \end{array}$$

e. How many minutes are there in 17 hours?

SOLUTION:

$$\begin{array}{r} 60 \\ \times 17 \\ \hline 420 \\ + 60 \\ \hline = 1,020 \end{array}$$

f. 25 boxes are loaded on a truck. If each box weighs 22 kg, what is the total weight of the load?

SOLUTION:

$$\begin{array}{r} 25 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ + 50 \\ \hline = 550 \end{array}$$

g. A can of oil costs Rs 60.50 If the Zaid family buys 4 can, how much will their bill be?

SOLUTION:

$$\begin{array}{r} 60.50 \\ \times 4 \\ \hline 242.00 \\ \hline = 242.00 \end{array}$$

3- WRITE VERTICALLY AND MULTIPLY.

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K
- L
- M
- N
- O
- P
- Q
- R 1078
- 1964
- 360
- 18
- 65
- 39
- 2382
- 452

325
252
57
83
I05
261
300
372
169
416 X
X
X
X
x
X
X
X
X
X
X
X
X
X
X
X
X
X
X
X
X
X
X
X
X 7
3
10
70
80
100
4
20
15
6
14

22

35

18

26

15

24

42 =

=

=

=

=

=

=

=

=

=

=

=

=

=

=

=

=

=

a.

1 0 7 8

× 7

7 5 4 6

= 7 , 5 4 6

c.

3 6 0

× 1 0

+ 3 6 0

= 3 , 6 0 0

e.

$$\begin{array}{r} 65 \\ \times 80 \\ \hline \end{array}$$

$$\begin{array}{r} + 520 \\ = 5,200 \end{array}$$

g.

$$\begin{array}{r} 2382 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9528 \\ = 9,528 \end{array}$$

i.

$$\begin{array}{r} 325 \\ \times 15 \\ \hline \end{array}$$

$$\begin{array}{r} 1625 \\ + 325 \\ \hline \end{array}$$

$$\begin{array}{r} = 4,875 \end{array}$$

b.

$$\begin{array}{r} 1964 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5892 \\ = 5,892 \end{array}$$

d.

$$\begin{array}{r} 18 \\ \times 70 \\ \hline \end{array}$$

$$\begin{array}{r} + 126 \\ = 1,260 \end{array}$$

$$\begin{array}{r} = 1,260 \end{array}$$

f.

$$\begin{array}{r} 39 \\ \times 100 \\ \hline \end{array}$$

$$\begin{array}{r} + 0 \\ + 39 \\ \hline \end{array}$$

$$\begin{array}{r} = 3,900 \end{array}$$

h.

$$\begin{array}{r} 452 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} + 904 \\ = 9,040 \end{array}$$

j.

$$\begin{array}{r} 252 \\ \times 6 \\ \hline 1512 \\ = 1,512 \end{array}$$

k.

$$\begin{array}{r} 57 \\ \times 14 \\ \hline 228 \\ + 57 \\ \hline = 798 \end{array}$$

l.

$$\begin{array}{r} 83 \\ \times 22 \\ \hline 166 \\ + 166 \\ \hline = 1,826 \end{array}$$

m.

$$\begin{array}{r} 105 \\ \times 35 \\ \hline 525 \\ + 315 \\ \hline = 3,675 \end{array}$$

n.

$$\begin{array}{r} 261 \\ \times 18 \\ \hline 2088 \\ + 261 \\ \hline \end{array}$$

$$= 4,6980.$$

$$\begin{array}{r} 300 \\ \times 26 \\ 1800 \\ + 600 \\ \hline = 7,800 \end{array}$$

p.

$$\begin{array}{r} 372 \\ \times 15 \\ 1860 \\ + 372 \\ \hline = 5,580 \end{array}$$

q.

$$\begin{array}{r} 169 \\ \times 24 \\ 676 \\ + 338 \\ \hline = 4,056 \end{array}$$

r.

$$\begin{array}{r} 416 \\ \times 42 \\ 832 \\ + 1664 \\ \hline = 17,472 \end{array}$$

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MULTIPLICATION BY 10 SECOND ITS MULTIPLES

1- MULTIPLY BY 10. (340 x 10 —3400)

- a. $581 \times 10 = 5810$
- b. $9123 \times 10 = 91230$
- c. $629 \times 10 = 6290$
- d. $7082 \times 10 = 70820$

2- MULTIPLY BY 100. (163 X 100 — 16,300)

a. $475 \times 100 = 47500$

b. $5692 \times 100 = 569200$

3- MULTIPLY BY 1000. (400 x 1000 490.006)

a. $582 \times 1000 = 582000$

b. $205 \times 1000 = 205000$

4- MULTIPLY BY 10,000. (78 x 10,000 —780,00)

a. $19 \times 10000 = 190000$

b. $95 \times 10000 = 950000$

5- FILL IN THE BLANKS.

A $16 \times = 16,000$

B $290 \times = 2,900$

C $\times 1000 = 480,000$

D $56 \times 10,000 =$

E $78 \times = 780,000$

F $\times 10,000 = 670,000$

ANSWERS:

(a-1000) (b- 10) (c- 480) (d- 560000) (e- 10000) (f- 67)

6- CHANGE M INTO CM.

(1 m= 100 cm)

a. $7000 \text{ m} = 700000 \text{ cm}$

b. $4960 \text{ m} = 496000 \text{ cm}$

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MULTIPLICATION BY 10 SECOND ITS MULTIPLES

7. NOW MULTIPLY THESE NUMBERS.

a. 27×200

b. 24×6000

c. 22×9000

d. 51×70

e. 38×7000

f. 87×2000

a.

27

$\times 200$

$$\begin{array}{r} + 0 \\ + 54 \\ = 5,400 \end{array}$$

b.

$$\begin{array}{r} 24 \\ \times 6000 \end{array}$$

$$\begin{array}{r} + 0 \\ + 0 \\ + 144 \\ = 144,000 \end{array}$$

c.

$$\begin{array}{r} 22 \\ \times 9000 \end{array}$$

$$\begin{array}{r} + 0 \\ + 0 \\ + 198 \\ = 198,000 \end{array}$$

d.

$$\begin{array}{r} 51 \\ \times 70 \end{array}$$

$$\begin{array}{r} + 357 \\ = 3,570 \end{array}$$

e.

$$\begin{array}{r} 38 \\ \times 7000 \end{array}$$

$$\begin{array}{r} + 0 \\ + 0 \\ + 266 \\ = 266,000 \end{array}$$

$$\begin{array}{r} 87 \\ \times 2000 \end{array}$$

$$\begin{array}{r}
 + 0 \\
 + 0 \\
 + 174 \\
 = 174,000
 \end{array}$$

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MULTIPLICATION BY 10 SECOND ITS MULTIPLES

8. SOLVE THESE.

a. 54×300

$$\begin{array}{r}
 54 \\
 \times 300 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 + 0 \\
 + 162 \\
 = 16,200
 \end{array}$$

b. 48×3000

$$\begin{array}{r}
 48 \\
 \times 3000 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 + 0 \\
 + 0 \\
 + 144 \\
 = 144,000
 \end{array}$$

c. 415×600

$$\begin{array}{r}
 415 \\
 \times 600 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 + 0 \\
 + 2490 \\
 = 249,000
 \end{array}$$

d. $25 \times 20,000$

$$\begin{array}{r}
 25 \\
 \times 20000 \\
 \hline
 \end{array}$$

+ 0
 + 0
 + 0
 + 5 0
 = 5 0 0 , 0 0 0

9. 1 HOUR = 60 MIN. FIND OUT HOW MANY MINUTES IN:

- a. 5hours (h) b. 32h
 c. 21 h d. 36h

ANSWERS: (a- 300 minutes) (b- 1920 minutes) (c- 1260 minutes) (d- 2160 minutes)

10. THERE ARE 50 PEOPLE IN THIS BUS (INCLUDING THE DRIVER).

FIND OUT HOW MANY PEOPLE IN:

FIND OUT HOW MANY PEOPLE IN:

- a. 16 buses b. 102 buses
 c. 98 buses d. 1000 buses

ANSWERS: (a- 800 peoples) (b-5100 peoples) (c- 4900 peoples) (d- 50000 peoples)

11. MULTIPLY EACH NUMBER BY 40, THEN BY 400, THEN BY 4000.

- a. 28
 b. 120
 c. 83
 d. 133

ANSWERS:

a. $28 \times 4 = 112$
 $28 \times 40 = 1120$
 $28 \times 400 = 11200$
 $28 \times 4000 = 112000$

b. $120 \times 40 = 4800$
 $120 \times 400 = 48000$
 $120 \times 4000 = 480000$

c. $83 \times 40 = 3320$
 $83 \times 400 = 33200$
 $83 \times 4000 = 332000$

d. $133 \times 40 = 5320$
 $133 \times 400 = 53200$
 $133 \times 4000 = 532000$

12. $1 \text{ m} = 100 \text{ cm}$. Convert m into cm in the following: ($580 \text{ m} = 58,000 \text{ cm}$)

- a. 630 m
- b. 1200 m
- c. 84 m
- d. 3821 m

ANSWERS: (a- 63000 cm) (b-120000 cm) (c-8400 cm) (d-382100 cm)

13. $1 \text{ km} = 1000 \text{ m}$. Convert km into m in the following: ($6 \text{ km} = 6,000 \text{ m}$)

- a. 47 km
- b. 309 km
- c. 100 km
- d. 4 km

ANSWERS: (a- 47000m) (b-309000 m) (c-100000m) (d-4000 m)

14. $1 \text{ kg} = 1000 \text{ g}$. Convert kg into g in the following: ($129 \text{ kg} = 129,000 \text{ g}$)

- a. 560 kg
- b. 999 kg
- c. 111 kg
- d. 493 kg

15. $1 \text{ L} = 1000 \text{ ml}$. Convert l into ml in the following: ($295 \text{ l} = 295,000 \text{ ml}$)

- a. 141 L
- b. 902 L
- c. 39 L
- d. 800L

ANSWERS: (a- 141000 ml) (b-902000 ml) (c- 39000 ml) (d-800000 ml)

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MULTIPLYING BY 2-DIGIT NUMBERS

I. COPY SECOND MULTIPLY. BE CAREFUL WITH YOUR COLUMNS!

a. 643

x72 b. 305

x64 c. 865

x 28

d. 996

x 37 e. 487

x53 f. 408

x 93

2. WRITE VERTICALLY SECOND MULTIPLY.

a. 749 x62 b. 643 x59 c. 816 x 94

d. 838 x 67 e. 567 x 81 f. 950 x 48

3- SOLVE THE WORD PROBLEMS, MAKING COMPLETE STATEMENTS.

a. A train in Germany travels 528 km in one hour. How far will it travel in 24 hours?

b. A machine in a factory makes 615 togs every day. How many togs will it make in 6 weeks?

If 48 mangoes are packed in 1 box, how many mangoes are there in 650 such boxes?

d. A room in Hotel Palm Magic costs Rs 052 per night. If all 58 rooms are occupied, how much money will the hotel manager collect in one night?

e. If Sohail runs 650 m every morning, how many metres will he run in 5 weeks of ' daily training?

PAGE: 20

MULTIPLICATION: SOME NEW WORDS

I. COPY SECOND MULTIPLY THE FOLLOWING. THEN LABEL THEM

462 – Multiplicand

X 75 ---- multiplier

2310

32340 ——product

a. 619

x 77 b. 964

x 79

C. 385

X 47 d. 474

X 36

a.

6 1 9

x 7 7

4 3 3 3

+ 4 3 3 3

= 4 7 , 6 6 3

b.

9 6 4

x 7 9

8 6 7 6

+ 6 7 4 8

= 7 6 , 1 5 6

c.

3 8 5

x 4 7

2 6 9 5

+ 1 5 4 0

= 1 8 , 0 9 5

d.

4 7 4

x 3 6

2 8 4 4

+ 1 4 2 2

= 1 7 , 0 6 4

2- WRITE SUMS TO MATCH THESE WORDS. THEN SOLVE THEM.

Multiplier 62, multiplicand

416 6

$$\begin{array}{r} 416 \\ \times 62 \\ \hline 25792 \end{array}$$

a. Multiplicand 82,
multiplier 16

$$\begin{array}{r} 82 \\ \times 16 \\ \hline 492 \\ + 82 \\ \hline = 1,312 \end{array}$$

b. Multiplicand 176,
multiplier 10

$$\begin{array}{r} 176 \\ \times 10 \\ \hline \\ + 176 \\ \hline = 1,760 \end{array}$$

c. Multiplicand 395,
multiplier 72

$$\begin{array}{r} 395 \\ \times 72 \\ \hline 790 \\ + 2765 \\ \hline = 28,440 \end{array}$$

3- WRITE THESE VERTICALLY SECOND MULTIPLYING THEM. THEN LABEL THEIR PARTS.

a. 648 X 52 b. 783 X 89

$$\begin{array}{r} 648 \\ \times 52 \\ \hline 1296 \\ + 3240 \\ \hline = 33,696 \end{array}$$

$$783$$

$$\begin{array}{r}
 \times 89 \\
 7047 \\
 + 6264 \\
 \hline
 = 69,687
 \end{array}$$

c. 7351 X 69 d. 650 X 05

$$\begin{array}{r}
 739 \\
 \times 69 \\
 6651 \\
 + 4434 \\
 \hline
 = 50,991
 \end{array}$$

$$\begin{array}{r}
 650 \\
 \times 95 \\
 3250 \\
 + 5850 \\
 \hline
 = 61,750
 \end{array}$$

4- SOLVE THESE SUMS IN YOUR HEAD. THEN JOIN THEM TO THE CORRECT PRODUCT.

Products

120 x 40

36 x 500

115 x 200

81 x 60

500 x 500

42 x 30

15 x 70

430 x 50 1260

4800

18000

4860

23000

250000

21500

1050

ANSWERS: (a- 2) (b- 3) (c- 5) (d-4) (e- 6) (f- 1) (g- 8) (h-7)

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MULTIPLICANDS OF 4 DIGITS SECOND MULTIPLIERS OF 3 DIGITS

NOW COPY SECOND MULTIPLY THESE. BE CAREFUL WITH YOUR COLUMNS.

a. 1 634

X24 b. 3472

X48

3- COPY SECOND MULTIPLY. BE SURE TO WRITE YOUR COLUMNS L CAREFULLY.

a. 356

X142 b. 218

X208

2- SOLVE THESE WORD PROBLEMS, MAKING COMPLETE STATEMENTS

a. A leaking tap wastes 3750 ml of water in 1 hour. How much water will be wasted in a day?

b. Rehan found out that he can save 4726 ml of water every day by not leaving the tap open continuously, during his bath. How much water can be saved in 25 days in this manner?

c. There are 1440 minutes in a day. How many minutes are there in 8 weeks?

4- WRITE SUMS TO MATCH THE WORDS, THEN SOLVE THEM.

Multiplicand 226,

multiplier 483

226

X 483

109158

Multiplicand 381

multiplier 422

Multiplier 604,
Multiplicand 304

5- SOLVE THESE IN YOUR HEAD!

a. 84×200 b. 763×400 c. 483×100

d. 258×900 e. 834×300 f. 582×700

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REVIEW

1. COPY THE SUMS, THEN FILL IN THE MISSING SIGNS, X OR +.

A $97 = 63$

B $8412 = 7$

C $6010 = 6$

D $4014 = 560$

ANSWERS: (a. \times) (b. \div) (c. \div) (d. \times)

2. COPY AND COMPLETE.

$140 \div 2 =$

A $300 \div 6 =$

B $750 \div 5 =$

C $160 \div 8 =$

D $630 \div 9 =$

SOLUTION:

a.

050

6300

30

30

00

b.

150

5750

5

25

2 5
0 0

c.
0 2 0
8 1 6 0

1 6
1 6
0 0

d.
0 7 0
9 6 3 0

6 3
6 3
0 0

3. WRITE THE NUMBER THAT IS:

A $\frac{1}{2}$ of 24 =

B $\frac{1}{6}$ of 36 =

C $\frac{1}{3}$ of 27 =

D $\frac{1}{4}$ of 124 =

SOLUTION:

A $\frac{1}{2}$ of 24 = $\frac{2}{2} = \times \frac{24}{2} = 12$

B $\frac{1}{6}$ of 36 = $\frac{6}{6} = \times \frac{36}{6} = 6$

C $\frac{1}{3}$ of 27 = $\frac{3}{3} = \times \frac{27}{3} = 9$

D $\frac{1}{4}$ of 124 = $\frac{4}{4} = \times \frac{(124)}{4} = 31$

4. SOLVE THESE WORD PROBLEMS

a. How many nines are there in eighty-one?

SOLUTION:

$81 \div 9 = 9$

b. If six pencils cost Rs 36 how much does one pencil cost?

SOLUTION:

Number of pencils = 6

Cost of pencils = 36

So cost of 1 pencil = $36 \div 6 = 6$

5. SOLVE THE FOLLOWING

a. $1000 \div 5$

0 2 0 0

5 1 0 0 0

1 0

1 0

0 0

0 0

b. $7000 \div 5$

1 4 0 0

5 7 0 0 0

5

2 0

2 0

0 0

0 0

c. $7200 \div 8$

0 9 0 0

8 7 2 0 0

7 2

7 2

0 0

0 0

d. $9900 \div 9$

1 1 0 0
9 9 9 0 0
9
0 9
9
0 0

0 0

6. DIVIDE THESE NUMBERS BY 10

a. $50 \div 10 = 5 \text{ r } 0$ b. $574 \div 10 = 57 \text{ r } 4$ c. $210 \div 10 = 21 \text{ r } 0$
d. $1000 \div 10 = 100 \text{ r } 0$

7. WRITE THE MISSING QUOTIENTS

A $360 \div 9 =$

B $6400 \div 8 =$

C $480 \div 6 =$

ANSWERS: (a- 40) (b- 800) (c- 80)

8. FIND THE MISSING DIVIDENDS

A $\div 5 = 2$

B $\div 8 = 8$

C $\div 5 = 9$

ANSWERS: (a- 2) (b- 8) (c- 9)

9. FIND THE MISSING DIVISORS

a. $10 \div \text{---} = 5$

b. $45 \div \text{---} = 9$

c. $56 \div \text{---} = 7$

ANSWERS: (a- 5) (b- 9) (c- 7)

10- WRITE THESE SUMS IN LONG DIVISION FORM, THEN COMPLETE

a. Dividend 437, divisor 7

0 6 2
7 4 3 7

4 3
4 2
1 7
1 4
3

b. Divisor 8, dividend 144

0 1 8
8 1 4 4

1 4
8
6 4
6 4

c. Dividend 32, divisor 8

0 0 3
8 6 3 2 9

3 2

3 2 9
2 5 8
7 1

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MULTIPLICATION SECOND DIVISION WITH BIGGER NUMBERS

1. LOOK AT THIS CHART CAREFULLY SECOND COMPLETE IT. WHEN YOU HAVE FINISHED, YOU WILL HAVE WRITTEN TABLES FROM 11-19

11 12 13 14 15 16 17 18 19

1 11 14

2 22 32

3 33 39 57

4 48 68

5

6 108

7 105

8 104

9 144

10 180

ANSWERS:

11 12 13 14 15 16 17 18 19

1 11 12 13 14 15 16 17 18 19

2 22 24 26 28 30 32 34 36 38

3 33 36 39 42 45 48 51 54 57

4 44 48 52 56 60 64 68 72 76

5 55 60 65 70 75 80 85 90 95

6 66 72 78 84 90 96 102 108 114

7 77 84 91 98 105 112 119 126 133

8 88 96 104 112 120 128 136 144 152

9 99 108 117 126 135 144 153 162 171

10 110 120 130 140 150 160 170 180 190

2. NOW COMPLETE THESE SUMS, WITH THE HELP OF THE CHART

$$108 \div 18 = 6$$

a. $91 \div 13 =$

b. $112 \div 14 =$

c. $96 \div 12 =$

d. $119 \div 17 =$

e. $152 \div 19 =$

f. $144 \div 18 =$

ANSWERS: (a- 7) (b- 8) (c- 8) (d- 7) (e- 8) (f- 8)

3. NOW COMPLETE THESE, WRITING REMAINDERS WHERE NECESSARY

$$145 \div 16 = 9 \text{ r } 1$$

a. $128 \div 17 =$

b. $185 \div 18 =$

c. $77 \div 15 =$

d. $113 \div 18 =$

e. $106 \div 11 =$

ANSWERS: (a- 7 r 9) (b- 10 r 5) (c- 5 r 2) (d- 6 r 5) (e- 9 r 7)

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Q1 USING THE CHART ON PAGE 23 COPY AND COMPLETE THE FOLLOWING.

a. 14) 408

0 2 9

1 4 4 0 8

4 0

2 8

1 2 8

1 2 6

2

b. 16) 931

0 5 8

1 6 9 3 1

9 3

8 0

1 3 1

1 2 8

3

C. 12) 269

0 2 2

1 2 2 6 9

2 6

2 4

2 9

2 4

5

D. 17) 695

0 4 0

1 7 6 9 5

6 9

6 8

1 5

1 5

E. 15)530

0 3 5

1 5 5 3 0

5 3

4 5

8 0

7 5

5

F. 18)586

0 3 2

1 8 5 8 6

5 8

5 4

4 6

3 6

1 0

Q2: WRITE THESE IN LONG DIVISION FORM AND SOLVE.

a. $744 \div 12$

0 6 2

1 2 7 4 4

7 4

7 2

2 4

2 4

b. $384 \div 15$

0 2 5

1 5 3 8 4

3 8

3 0

8 4

7 5

9

c. $407 \div 13$

0 3 1

1 3 4 0 7

4 0

3 9

1 7

1 3

4

d. $492 \div 13$

0 3 7

1 3 4 9 2

4 9

3 9

1 0 2

9 1

1 1

3. FIND THE MISSING DIVISORS

A $135 \div = 9$

B $112 \div = 16$

C $54 \div = 18$

D $153 \div = 17$

E $117 \div = 13$

F $152 \div = 19$

G $144 \div = 12$

H $126 \div = 14$

I $99 \div = 9$

J $105 \div = 15$

ANSWERS: (a- 15) (b- 7) (c- 3) (d- 9) (e- 9) (f- 8) (g- 12)(h- 9)(i- 11)(j- 7)

Q 4.SOLVE THE WORD PROBLEMS, MAKING COMPLETE STATEMENTS.

(a) In a relay race, 16 children ran a total of 9600 m. How many metres did each child run? Solution:

Total children=16

Total race=9600m

Each child ran= $9600 \div 16$
=600 meters

(b)A jug contains 1440 ml of orange juice. If 12 children share the juice equally, how much does each child get? Solution:

Total children=12

Total juice=1440 ml

Each child got= $1440 \div 12$
=120 ml

(c)If crayons are packed in boxes of 16, how many boxes are needed to pack 4000 crayons? Solution:

Total boxes=16

Total crayons=4000

Each child ran= $4000 \div 16$
=250 crayons

(d)Rs 5530 is collected for 7 families whose homes have been damaged by floods.

How much money will each family get? Solution:

Total families=7

Total money=Rs 5530

Each family got= $5530 \div 7$
= Rs 790

(e)Eleven children share the first prize in a painting contest. If the prize money is Rs 5000, how much will each child get, second how much money will be left over? Solution:

Total children=11

Total money=Rs 5000

Each child got= $5000 \div 11$
= Rs 454 left over =6

Q5: WRITE DIVIDENDS IN THE BLANKS.

A — $\div 17 = 6$

B — $\div 4 = 12$

C — $\div 3 = 13$

D — $\div 15 = 7$

E — $\div 18 = 4$

f — $\div 6 = 11$

ANSWERS: (a- 102) (b- 48) (c- 39) (d- 105) (e- 72) (f- 66)

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DIVISION WITH BIGGER NUMBERS

6. WHEN YOU HAVE COMPLETED THIS CHART, YOU WILL HAVE WRITTEN TABLES FOR THESE NUMBERS: 10, 20, 30, 40, 50, 60, 70, 80, SECOND 90.

10 20 30 40 50 60 70 80 90

1 10 20

2 80

3 60

4 240

5 150

6 480

7 630

8

9 450

10 700

Answers:

10 20 30 40 50 60 70 80 90

1 10 20 30 40 50 60 70 80 90

2 20 40 60 80 100 120 140 160 180

3 30 60 90 120 150 180 210 240 270

4 40 80 120 160 200 240 280 320 360

5 50 100 150 200 250 300 350 400 450

6 60 120 180 240 300 360 420 480 540

7 70 140 210 280 350 420 490 560 630

8 80 160 240 320 400 480 560 640 720

9 90 180 270 360 450 540 630 720 810

10 100 200 300 400 500 600 700 800 900

7- WORK OUT THE FOLLOWMG

$$320 \div 40 =$$

$$350 \div 70 =$$

$$810 \div 90 =$$

$$200 \div 40 =$$

$$540 \div 60 =$$

$$720 \div 90 =$$

ANSWERS: (a- 5) (b- 9) (c- 5) (d- 9) (e- 8)

8. WORK OUT THE FOLLOWMG

$$424 \div 70 =$$

$$638 \div 90 =$$

$$69 \div 20 =$$

$$480 \div 60 =$$

$$513 \div 10 =$$

a-

0 0 6

7 0 4 2 4

4 2

4 2 4

4 2 0

4

b.

0 0 7

9 0 6 3 8

6 3

6 3 8

6 3 0

8

c.

0 3

2 0 6 9

6 9

6 0

9

d.

0 0 8

6 0 4 8 0

4 8

4 8 0

4 8 0

e.

Show Work:

0 5

1 0 5 1

5 1

5 0

1

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DIVISORS WITH 2 DIGITS

1. COPY AND DIVIDE, WORKING VERY CAREFULLY.

a. $420 \overline{) 542}$

b. $62 \overline{) 719}$

c. $23 \overline{) 605}$

d. $35 \overline{) 816}$

e. $34 \overline{) 493}$

f. $51 \overline{) 948}$

g. $56 \overline{) 628}$

h. $47 \overline{) 876}$

a.

$$\begin{array}{r} 011 \\ 48542 \end{array}$$

$$\begin{array}{r} 48542 \end{array}$$

$$\begin{array}{r} 54 \end{array}$$

$$\begin{array}{r} 48 \end{array}$$

$$\begin{array}{r} 62 \end{array}$$

$$\begin{array}{r} 48 \end{array}$$

$$\begin{array}{r} 14 \end{array}$$

b.

$$\begin{array}{r} 011 \\ 62719 \end{array}$$

$$\begin{array}{r} 62719 \end{array}$$

$$\begin{array}{r} 71 \end{array}$$

$$\begin{array}{r} 62 \end{array}$$

$$\begin{array}{r} 99 \end{array}$$

$$\begin{array}{r} 62 \end{array}$$

$$\begin{array}{r} 37 \end{array}$$

c.

$$\begin{array}{r} 026 \\ 23605 \end{array}$$

$$\begin{array}{r} 23605 \end{array}$$

$$\begin{array}{r} 60 \end{array}$$

$$\begin{array}{r} 46 \end{array}$$

$$\begin{array}{r} 145 \end{array}$$

1 3 8

7

d.

0 2 3

3 5 8 1 6

8 1

7 0

1 1 6

1 0 5

1 1

e.

0 1 4

3 4 4 9 3

4 9

3 4

1 5 3

1 3 6

1 7

f.

0 1 8

5 1 9 4 8

9 4

5 1

4 3 8

4 0 8

3 0

g.

0 1 1

5 6 6 2 8

6 2

5 6

6 8

5 6

1 2

h.

0 1 8

4 7 8 7 6

8 7

4 7

4 0 6

3 7 6

3 0

2. WRITE THESE DIVISIONS IN LONG FORM SECOND WORK OUT.

a. $621 \div 36$

b. $800 \div 76$

c. $718 \div 42$

d. $956 \div 83$

e. $699 \div 33$

f. $792 \div 23$

g. $888 \div 11$

h. $791 \div 57$

0 1

3 6 6 2

6 2

3 6

2 6

b.

0 1 0

7 6 8 0 0

8 0

7 6

4 0

4 0

c.

0 1 7

4 2 7 1 8

7 1

4 2

2 9 8

2 9 4

4

d.

0 1 1

8 3 9 5 6

9 5

8 3

1 2 6

8 3

4 3

e.

0 2 1

3 3 6 9 9

6 9

6 6

3 9

3 3

6

f.

0 3 4

2 3 7 9 2

7 9

6 9

1 0 2

9 2

1 0

g.

0 8 0

1 1 8 8 8

8 8

8 8

0 8

8

h.

0 1 3

5 7 7 9 1

7 9

5 7

2 2 1

1 7 1

5 0

3. WRITE THESE DIVISIONS IN LONG FORM SECOND DIVIDE.

Dividend 385, divisor 24

Divisor 57, dividend 640

Divisor 62, dividend 719

Dividend 700, divisor 37

Divisor 91, dividend 938

Dividend 999, divisor 53

a.

0 1 6

2 4 3 8 5

3 8

2 4

1 4 5

1 4 4

1

b.

0 1 1

5 7 6 4 0

6 4

5 7

7 0

5 7

1 3

c.

0 1 1

6 2 7 1 9

7 1

6 2

9 9

6 2

3 7

d.

0 1 8

3 7 7 0 0

7 0

3 7

3 3 0

2 9 6

3 4

e.

0 1 0

9 1 9 3 8

9 3

9 1

2 8

2 8

0 1 8

5 3 9 9 9

9 9
5 3
4 6 9
4 2 4
4 5

P:27

DIVISORS WITH 2 DIGITS

4. COPY AND DIVIDE.

- a. $23)117$
- b. $47)377$
- c. $45)269$
- d. $61)795$

5. WORK OUT THESE DIVISIONS IN LONG FORM.

- a. $118 \div 25$
- b. $371 \div 45$
- c. $209 \div 24$
- d. $469 \div 57$
- e. $320 \div 36$
- f. $544 \div 63$

6. COPY AND DIVIDE:

- a. $37) 157$
- b. 235723
- c. 58472
- d. 565332
- e. $74\text{§}823$
- f. $35;q00$

7. SOLVE THE WORD PROBLEMS, MAKING COMPLETE STATEMENTS

- a. At a school camp, 800 children are divided into groups of 25 children each. How many groups are there altogether?
- b. For the best campaign on 'Saving the Tiger', all 36 children in class 4B shared a reward of Rs 936. How much did each child get, second how much money was left over?
- c. Kashif has only 943 L of petrol left in his petrol pump. If

52 cars are in the queue for petrol, how much does each receive if the petrol is shared equally? How much is left over?

P:28

DIVIDENDS WITH 4 DIGITS

1. COPY AND DIVIDE, WORKING VERY CAREFULLY.

A 28) 4042

B 26) 1064

C 31) 6485

D 18) 1002

E 43)5629

F 39)2084

G 62)9858

H 24)8914

I 51)4092

J 65)5000

a.

0 1 4 4

2 8 4 0 4 2

4 0

2 8

1 2 4

1 1 2

1 2 2

1 1 2

1 0

b.

0 0 4 0

2 6 1 0 6 4

1 0

1 0 6

1 0 4

2 4

2 4

c.

0 2 0 9

3 1 6 4 8 5

6 4

6 2

2 8

2 8 5

2 7 9

6

d.

0 0 5 5

1 8 1 0 0 2

1 0

1 0 0

9 0

1 0 2

9 0

1 2

e.

0 1 3 0

4 3 5 6 2 9

5 6

4 3

1 3 2

1 2 9

3 9

3 9

f.

0 0 5 3

3 9 2 0 8 4

2 0

2 0 8

1 9 5

1 3 4

1 1 7

1 7

g.

0 1 5 9

6 2 9 8 5 8

9 8

6 2

3 6 5

3 1 0

5 5 8

5 5 8

0 3 7 1

2 4 8 9 1 4

8 9

7 2

1 7 1

1 6 8

3 4

2 4

1 0

i.

0 8 1 8

5 4 0 9 2

4 0

4 0

0 9

5

4 2

4 0

2

j.

0 0 7 6

6 5 5 0 0 0

5 0

5 0 0

4 5 5

4 5 0

3 9 0

6 0

2. WRITE IN LONG DIVISION FORM AND DIVIDE.

a. $4618 \div 29$

b. $9310 \div 86$

c. $3047 \div 53$

d. $6593 \div 72$

e. $3271 \div 49$

f. $6999 \div 33$

g. $8120 \div 91$

h. $3024 \div 45$

i. $4002 \div 58$

j. $5430 \div 66$

a.

0 1 5 9

2 9 4 6 1 8

4 6

2 9

1 7 1

1 4 5

2 6 8

2 6 1

7

b.

0 1 0 8

8 6 9 3 1 0

9 3

8 6

7 1

7 1 0

6 8 8

2 2

c.

0 0 5 7

5 3 3 0 4 7

3 0

3 0 4

2 6 5

3 9 7

3 7 1

2 6

d.

0 0 9 1

7 2 6 5 9 3

6 5

6 5 9

6 4 8

1 1 3

7 2

4 1

e.

0 0 6

4 9 3 2 7

3 2

3 2 7

2 9 4

3 3

f.

0 2 1 2

3 3 6 9 9 9

6 9

6 6

3 9

3 3

6 9

6 6

3

g.

0 0 8 9

9 1 8 1 2 0

8 1

8 1 2

7 2 8

8 4 0

8 1 9

2 1

h.

0 0 6 7

4 5 3 0 2 4

3 0

3 0 2

2 7 0

3 2 4

3 1 5

9

i.

0 0 6 9

5 8 4 0 0 2

4 0

4 0 0

3 4 8

5 2 2

5 2 2

j.

0 0 8 2

6 6 5 4 3 0

5 4

5 4 3

5 2 8

1 5 0

1 3 2

1 8

P:29

MULTIPLY TO CHECK!

1. COPY and COMPLETE. THEN MULTIPLY TO CHECK YOUR ANSWERS:

A 24) 604

0 2 5

2 4 6 0 4

6 0

4 8

1 2 4

1 2 0

4

B 19) 1624

0 0 8 5

1 9 1 6 2 4

1 6

1 6 2

1 5 2

1 0 4

9 5

9

C 32) 859

0 2 6

3 2 8 5 9

8 5

6 4

2 1 9

1 9 2

2 7

D 43) 6205

0 1 4 4

4 3 6 2 0 5

6 2

4 3

1 9 0

1 7 2

1 8 5

1 7 2

1 3

E 61) 962

0 1 5

6 1 9 6 2

9 6

6 1

3 5 2

3 0 5

4 7

F 28) 3100

0 1 1 0

2 8 3 1 0 0

3 1

2 8

3 0

2 8

2 0

2 0

2. Write the sums, complete them, then multiply to check.

Dividend 399, divisor 17

Dividend 4082, divisor 62

Divisor 49, dividend 6351

Dividend 5641, divisor 13

Divisor 81, dividend 3001

Dividend 1069, divisor 72

Divisor 27, dividend 1111

Divisor 55, dividend 3030

a. b. c. d.

0 2 3

1 7 3 9 9

3 9

3 4

5 9

5 1

8

0 0 6 5

6 2 4 0 8 2

4 0

4 0 8

3 7 2

3 6 2

3 1 0

5 2

0 1 2 9

4 9 6 3 5 1

6 3

4 9

1 4 5

9 8

4 7 1

4 4 1

3 0

0 4 3 3

1 3 5 6 4 1

5 6

5 2

4 4

3 9

5 1

3 9

1 2

e.

0 0 3 7

8 1 3 0 0 1

3 0

3 0 0

2 4 3

5 7 1

5 6 7

4

f.

0 0 1 4

7 2 1 0 6 9

1 0

1 0 6

7 2

3 4 9

2 8 8

6 1

g.

0 0 4 1

2 7 1 1 1 1

1 1

1 1 1

1 0 8

3 1

2 7

4

h.

0 0 5 5

5 5 3 0 3 0

3 0

3 0 3

2 7 5

2 8 0

2 7 5

5

3. WRITE QUOTIENTS IN THE BLANKS.

$$4900 \div 49 =$$

$$6500 \div 10 =$$

$$8000 \div 20 =$$

$$5100 \div 17 =$$

$$4800 \div 40 =$$

ANSWERS: (a- 100) (b- 650) (c- 400) (d- 300) (e- 120)

P:30

USING DIVISION IN WORD PROBLEMS

1- SOLVE THESE WORD PROBLEMS, MAKING COMPLETE STATEMENTS. THEN MULTIPLY TO CHECK THE ANSWERS:S.

a. Thirty children made 5280 paper bags. How many did each child make?

b. How many pieces of cloth can be cut from a 5-metre length of cloth, if each piece is 50 cm long?

c. From several orchards, delicious apples are packed in boxes of 72 each. How many boxes will be required for 900 apples?
(This is tricky!)

d. Five doctors travel from Karachi to Lahore to attend a conference. The total bill for their train tickets is Rs 9675. How much does each doctor pay?

e. How many hours are there in 2700 minutes?

f. Four friends share a flat. Their total expenses for January are Rs9256. How much money must each friend contribute?

2. NOW SOLVE THESE PROBLEMS. THINK CAREFULLY WHETHER YOU SHOULD MULTIPLY OR DIVIDE TO GET THE ANSWERS:.

a. From one roll of film, I can get 24 photographs. How many rolls do I need to take 360 photographs?

b. How many days are there in 39 weeks?

c. A jungle path is 645 km long. If an explorer can I travel 15 km in a day, how many days will she take to cover the whole distance?

Mrs Bilal withdraws Rs 6160 from her account. She wants the money in Rs 20 notes. How many notes will the bank clerk give her?

P:31

DIVIDING BY 10 AND ITS MULTIPLES

P:32

DIVIDING BY 10 AND ITS MULTIPLES

1. WRITE QUOTIENTS IN THE BLANKS. 13,000 ÷ 100 130

$$2000 \div 10 =$$

$$3000 \div 100 =$$

$$767,200 \div 100 =$$

$$77,000 \div 1000 =$$

$$124,000 \div 10 =$$

$$500,100 \div 1000 =$$

ANSWERS: (a- 200) (b-30) (c-672) (d-77) (e-12,400)
(f-5001)

2. DO YOU REMEMBER? NOW WORK THESE OUT.

a. $422 \div 10$

b. $6103 \div 10$

c. $8952 \div 10$

d. $96,302 \div 10$

e. $70,111 \div 10$

f. $84,605 \div 10$

ANSWERS: (a-42 r 2) (b- 610 r 3) (c- 895 r 2) (d- 9630 r 2)
(e-7011 r) (f-8460 r 5)

3. LOOK CAREFULLY AT THESE SUMS. NOW COMPLETE THESE.

- a. $6420 \div 100 =$
- b. $12,472 \div 100 =$
- c. $45,505 \div 100 =$
- d. $80,720 \div 100 =$
- e. $1,16,304 \div 100 =$

ANSWERS: (a- 64 r 20) (b- 124 r 72) (c- 455 r 5) (d- 807 r 29)
(e- 1163 r 4)

4. NOW LOOK AT THESE EXAMPLES. DIVIDE EACH OF THESE BY 1000

- a. 4,300
- b. $3,10,400 \div 1000$
- c. $11,100 \div 1000$
- d. $8,96,000 \div 1000$

ANSWERS: (a- 4 r 300) (b- 310 r 400) (c- 11 r 100) (d- 896 r 0)

P:33

REVIEW

1. WORK THESE OUT IN YOUR HEAD THEN WRITE THE ANSWERS:S IN YOUR NOTEBOOK.

$$18 \times 20 =$$

$$64 + 82 =$$

$$91 - 59 =$$

$$511 \div 10 =$$

$$831 \times 500 =$$

$$6200 + 1000 =$$

$$146 + 23 + 40 =$$

$$524 + 48 - 62 =$$

ANSWERS: (a-360) (b- 146) (c- 32) (d- 51 r 1) (e- 4,15,500)
(f- 6 r 200)

(g- $169 + 40 = 209$) (h- 510)

2. COPY AND COMPLETE, USING VERTICAL FORM FOR +, -, AND X

SUMS, AND LONG DIVISION FOR \div SUMS.

- a. $32,069 - 18,478$
- b. $8243 \div 49$
- c. 384×72
- d. $48,162 + 530,694$
- e. $62,432 + 30,149 + 6828$
- f. 645×49
- g. $5031 + 64$
- h. $1,40,300 - 89,699$

ANSWERS: (a- 13,591) (b- 168 r 11) (c- 27,648) (d- 5,78,856)
(e-99,409)
(f- 31,605) (g- 78 r 39) (h- 50,601)

3. SOLVE THE WORD PROBLEMS AFTER DECIDING WHICH OF THE FOUR OPERATIONS YOU NEED TO USE.

a. The Shahid family keeps aside Rs 1550 every month for charity. How much does the family donate to charity annually? SOLUTION:

Shahid donates every month= Rs 1550

As 1 year =12 months

So house rent for a year = 1550×12

=

1 5 5 0

$\times 1 2$

3 1 0 0

+ 1 5 5 0

Rs = 1 8 , 6 0 0

b. There are 382! children in junior school, 27q8 children in middle school, second 2462 in senior school. What 'is the total strength of the school?

Children in junior school = 3821

Children in middle school = 2796

Children in senior school = 2462

Total strength of school = $3821 + 2796 + 2462$
= 9081

c. 36 children went on a field trip. The total expenses were Rs 4860. How much did the trip cost each child? Total number of children = 36
Total expenses = Rs 4860
Trip cost per child = $4860 \div 36$
= 135

0 1 3 5
3 6 4 8 6 0

4 8
3 6
1 2 6
1 0 8
1 8 0
1 8 0

d. Out of 2069 people working in a shoe factory, 1387 were women. How many men worked in the factory? Total people in a factory = 2090
Women working = 1387
Remaining = $2069 - 1387$
Working men = 682

e. An orphanage needs Rs 89,000 to buy a second-hand car. It has collected only Rs 57,697 so far. How much money still needed? Cost of car = Rs 89000
Money collected = Rs 57697
More needed = $89000 - 57697$
= Rs 31303

UNITARY METHOD: THINKING SECOND SOLVING

P:35

UNITARY METHOD:

1. WHAT IS THE COST OF:

a. 3 bananas at Rs 36 per dozen? SOLUTION:

12 bananas = Rs36

1 bananas = $36 \div 12 = 3$ Rs.

3 bananas cost = $3 \times 3 =$ Rs.9

b T-shirts at Rs 220 for 2? SOLUTION:

2 T-shirt Rs 220

1T-shirt = $220 \div 2 = 110$

9 T-shirts = $9 \times 110 =$ RS.990

c. 23 notebooks at Rs 60 for 3? SOLUTION:

3 note books = Rs.60

1 note book = $60 \div 3 = 20$

23 note books = RS 209 x 23
= Rs. 4600

2. NOW SOLVE THESE, GIVING COMPLETE STATEMENTS.

a. A year's rent for a house is Rs 18,000. If the Shal'1\./<-4,' family wants to rent the ' house for only 7months1' how much rent will thefigy have to pay?

Answer:

A year's rent for a house = Rs. 18,0000

1 month rent = $18000 \div 12 =$ Rs.1500

7 month rent = $1500 \times 7 = 10500$

7 month rent is Rs.10,500.

b. With 15 l of petrol in its tank, a car can cover

270 km. What distance can

the car cover with only 12 l

of petrol? petrol in car's tank = 15 L

car can cover in 15 L = 270 km

car can cover in 1 L = $270 \div 15 = 18$ km

Car cover with 12 L petrol = $18 \times 12 = 216$

3. CAN THE UNITARY METHOD BE USED TO SOLVE THESE PROBLEMS?
THINK CAREFULLY, SECOND THEN EXPLAIN YOUR ANSWERS:.

a. If a Rs 100 note is 15 cm long, how long will a Rs 20 note be?

Answer:

1 Size of Rs. 100 note = 15cm

size of Rs.1 note = $15 \div 100$ cm

. size of Rs.20 note = $15/100 \times 20$ cm
= 30 cm

b. If Anila is 132 cm tall at the age of 12, how tall was she when she was 2 years old? b. Anila's height in the age of 12 = 132 cm

Height of Anila's in the age of 1 = $132/12$ cm 1

Height of Zehra in the age of 2 = $132/12 \times 2$
= $11 \times 2 = 22$ cm

c. If a cat catches 18 mice during one night's hunting, how many cats will be

needed to catch 20 mice? c. Number of cat that catch 18 mice = 1

Number of cats that catch 1 mice = $1/18$

Number of cats that catch 20 mice = $1/18 \times 20$
= $20/18 = 10/9$

P:36

TIME: REMEMBERING THE CALENDAR

1. IN THE YEAR 3000 WHAT DATE IS: The first Tuesday, in October? 7 October

a. The first Wednesday in May?

b. The first Monday in January?

- c. The fourth Saturday of the year?
- d. Two weeks after 14 June?
- e. Two weeks after 21 November?
- f. One week before 10 June?
- g. Two weeks before 6 August?
- h. 10 days before 18 April?
- i. The first day of the new millennium?

ANSWERS: a. 7th may b. 6th January c. 25th January d. 28th June e. 5th December f. 3rd June g. 23rd July h. 8th April i. 1st January

2. WRITE THESE DATES IN SHORT FORM. 6 February 6.2.1971

- a. 16 July 1940
- b. 23 May 1981
- c. Your birth date
- d. Tomorrow's date

ANSWERS: a. 16.7.49 b. 23.5.81 c. 3.11.2004 d. 27.10.2016

3. LOOK AT THE CALENDAR FOR THE YEAR 3000 SECOND WRITE THE DAY WHICH MATCHES. 4. 11.3000 Tuesday

- a. 18.9.3000
- b. 27.4.3000
- c. 5.1.3000
- d. 1.11.3000
- e. 2.8.3000
- f. 31.10.3000

ANSWERS: a. Thursday b. Sunday c. Monday d. Saturday e. Saturday f. Friday

P:37

TIME

1. WHAT TIME DOES THE CLOCK SHOW?

ANSWERS: (a- 15 past 12 or 12:15) (b- 20 past 11 or 11:20)
(c- half past 4 or 4:30)

2. WRITE YOUR ANSWERS: IN WORDS AND IN FIGURES.

ANSWERS: (a- 25 min to 2 or 1:35) (b- quarter to 4 or 3:45)

(c- 10 to 7 or 6:50)

3. WRITE THE TIME IN FIGURES Quarter to seven =6:45

- a. 20 past three
- b. quarter post ten
- c. 25 to eleven
- d. quarter to two
- e. 10 to ten
- f. 6:45

ANSWERS: a. 3.20 b. 10.15 c. 10.35 d. 1.45 e. 9.50

4. LOOK CAREFULLY AT THESE CLOCK FACES. THEN WRITE THE TIME IN WORDS AND IN FIGURES.

ANSWERS: (a- 9 min to 5 or 4:51) (b- 22 min past one or 1:22)
(c- 27 min past 2 or 2:27)

P:38

TIME

5. USING A FIVE-RUPEE COIN, DRAW 6 CLOCK-FACES.

Mark your hours carefully.

Then mark minutes: remember, 5 in each segment.

6. NOW, DRAW THE TIME ON YOUR CLOCK-FACES.

- a. quarter to four
- b. 3:43
- c. 5:17
- d. 18 min to 9
- e. quarter past 7
- f. 11:08

6. WRITE THE TIME IN FIGURES.

12 minutes to 3 2:48

- a. 33 minutes past 12
- b. 14 minutes to 7
- c. 17 minutes past 2
- d. 13 minutes to 9
- e. 29 minutes past 1

ANSWERS: (a-12:33) (b- 6:46) (c- 2:17) (d- 8:47) (e- 1:29)

7. WHAT TIME DO THESE DIGITAL WATCHES SHOW? WRITE YOUR ANSWERS IN WORDS.

SOLUTION:

17 min past 1

40 min past 4

12 min past 10

8. COPY THIS TABLE IN YOUR NOTEBOOK SECOND COMPLETE IT

SOLUTION:

a. 23 min to 5 = 4:37

b. 21 min past 6 = 6:21

c. 18 min to 3 = 2:42

d. quarter to 11 = 10:45

e.

9. WRITE THE TIME THAT IS:

10 minutes earlier than 4:15

4:05

a. 6 minutes earlier than 9:30

b. 1/2 hour later than 10:55

c. 1/4 hour earlier than 7:30

d. 25 minutes earlier than 6:20

e. 30 minutes earlier than 3:12

f. 1/2 hour earlier than 5:15

g. 11 minutes later than 12:59

ANSWERS: (a- 9:24) (b- 11:25) (c- 7:15) (d- 5:55) (e- 2:42)

(f- 4:45)

(g- 1:10)

10. FIND THE NUMBER OF MINUTES

3 hours 45 minutes

$180 + 45 = 225$ min

2h 10min b. 10h

5h35min d. 4h23min

P:39

Time: a.m second p.m

11. WRITE THESE CLEARLY AS MORNING TIME.

quarter past 3 3:15 a.m

25 to six

5 o'clock

28 post two

quarter to four

ANSWERS: (a- 5:35 am) (b- 5:00 am) (c- 2:28 am) (d- 3:45 am)

12. WRITE THESE CLEARLY AS AFTERNOON-SECOND-EVENING TIME.

3 o'clock 3:00 p.m.

half post five

quarter to 10

12 minutes to 6

23 minutes to 2

eleven thirty

quarter past 4

ANSWERS: (a- 05:30 pm) (b- 09:45 pm) (c- 05:48 pm) (d- 01:37 pm)

(e- 11:30 pm) (f- 04:15 pm)

13. WHAT TIME WILL IT BE 3 HOURS AFTER:

11:00 p.m. 2:00 a.m.

6: 15 a.m.

8:40 a.m

10:10 a.m.

12 midnight

ANSWERS: (a- 9:15 am) (b- 11:40 am) (c- 1:10 pm) (d- 3:00 am)

14. WHAT TIME WAS IT 4

HOURS EARLIER THAN:

2:15 p.m. 10:15 a.m.

a. 7:30 a.m.

b. 2:05 a.m.

c. 10:20 p.m.

d. 12 noon

ANSWERS: a. 3:30 am b. 10:05 pm c. 6:20 pm d. 8:00 am

P:40

Time: The 24-Hour Clock

15. WRITE THE TIME AS IT WOULD BE ON THE 24-HOUR CLOCK.

4:10 p.m. + 12 = 16:10 hours

4:05 a.m. = 04:05 hours

a. 9:00 p.m.

b. 12:02 a.m.

c. 2:00 p.m.

d. 8:23 p.m.

e. 3:15 p.m.

f. 11:05 p.m.

ANSWERS: a. 09:00 hours b. 12:02 hours c. 14:00 hours d. 20:23

hours e. 15:15 hours f. 23:05 hours

16. Write as 12-hour clock time, using a.m. second p.m.

06:15 hours = 6:15 a.m.

18:03 hours

0520 hours

1716 hours

0000 hours

0045 hours

1200 hours

ANS;

05:20 am

17:16 am

00:00 am

00:45 am

12:00 pm

17. ANSWERS: THE QUESTIONS GIVING 24-HOUR CLOCK TIME.

a. An airbus Left Karachi at 18:40 hours second "arrived at Peshawar 2% hours Later. At what time did it arrive at Peshawar?

b. A train left Cantt Station in Karachi at 09:10 hours and reached Multan 15 hours later. What time was that?

P:41

TIME: USING TIMETABLES

1. USE SID'S TIMETABLE TO ANSWER THESE QUESTIONS.

How long does it take Bus 2 to travel from Planet City to Rocket Bay? ...13 hours 35 minutes

a. How long does Bus 2 take to travel from Startown to Planet City?

b. If Sid needs to be in Planet City at 14:30 hours, which bus should he catch from Startown?

c. At Moonrock, Sid just misses Bus 1. How long must he wait for Bus 2 to arrive?

d. What is the total journey time of Bus 2 from Startown to Rocket Bay?

2. Study the train timetable, then ANSWER these questions

How long does Train 1 take to travel from Colombo Fort to Nanu Oga? 6 hours 8 minutes

a. If I catch Train 1, what will my total journey time be from Colombo Fort to Badulla?

b. At Nanu Oga, a passenger who wants to travel to Badulla just misses Train 1?

c. How long must he wait for the next train? If a doctor needs to be in Kseondy to see a patient at 14:00 hours, which train should she catch from Colombo Fort? How long will she have for herself at Kseondy before her appointment?

P:42

PLAYING WITH TIME: CONVERSION

1. How many minutes in:

6 h 47 min 407 min

- a. 8h 15min
- b. 24h
- c. 10 h 20 min
- d. 18 h 25 min

2. HOW MANY HOURS SECOND MINUTES IN:

102 min 1 h 42 min

- a. 275 min
- b. 575 min
- c. 400 min
- d. 810 min

3. WRITE VERTICALLY SECOND SOLVE

- a. 58min+42min
- b. 1 h 23 min+ 50 min
- c. 4 h 16min+1 h 2min

4. WRITE VERTICALLY SECOND SUBTRACT

- a. 1 h 34 min – 48 min
- b. 6 h 7min- 1 h 12min

P:43

CONVERSION: MINUTES SECOND SECSECONDS

1. IF 60 SECSECONDS MAKE 1 MINUTE, HOW MANY SECSECONDS (SEC) IN:

4 min (4 X 60) = 240 sec

- a. 5 min
- b. 25 min

ANSWERS: (a- 300 sec) (b- 1500 sec)

2. HOW MANY SECSECONDS IN:

2 min 41 sec (2 X 60) + 41 = 161 sec

3 min 15 sec

21 min 30 sec

90 min 18 sec

ANSWERS: (a- 195 sec) (b- 1290 sec) (c- 5418 sec)

3. HOW MANY MIN SECOND SEC IN:

69 sec (69 + 60) = 1 min 9 sec

a. 85 sec

b. 200 sec

c. 103 sec

d. 316 sec

HOW MANY SEC IN:

3h...3x60x60sec = 10,800 sec

a. 2h

b. 9h

c. 4h

d. 24h(1 day)

ANSWERS: (a- 7200 sec) (b- 32400 sec) (c- 14,400 sec) (d- 86400 sec)

5. WE KNOW THAT 1 H = 3600 SEC. QUICKLY CONVERT THESE INTO SEC.

1 h 20 min 3600 +

(20 X 60) = 3600 + 1200 = 4800 sec

1 h 15 min

2h 5min

1 h 44min

2h 20min

6. WRITE VERTICALLY SECOND COMPLETE.

44+ sec + 28 sec

59 sec - 28sec

1 min 15 sec + 45 sec

7 min 32 sec + 3 min 28 sec

8 min 10 sec – 2 min 25 sec

P:44

PLAYING WITH TIME: WORD PROBLEMS

1. Tahir is training to swim for the national championships. For 7 days, he kept a record of when he began each swimming practice second when he finished. COPY AND COMPLETE the table to find out how long he practiced each day.

2. THINK CAREFULLY, THEN ANSWERS: THESE QUESTIONS.

a. An express bus left Town A at 18:15 hours and reached Town B at 21:05 hours. How long did the journey take?

b. A tennis match between Ayesha and Tonia started at 3:20 p.m. and ended at 7:05 p.m. How long did the match last?

c. Mrs Majid wants her cake to be ready at 4:00 p.m. If the cake takes 45 min to bake, at what time must it be put in the oven?

3. ANSWERS: THESE QUICKLY.

Write 2 min 28 sec in seconds.

Write this date in words: 21.4.15

Write in 24 h clock time: 8:32 p.m.

Write in min second sec: 84 sec

Write in short form: 3 September 1972.

Write in 12 h clock time: 19:40 h.

Write the time that is 15 min later than 9:46 a.m.

Write in sec: 1 h 5 min.

Write the date that is 2 weeks before 21 May.

NOW SOLVE THESE.

a. Shaista went to bed at 21:40 hours and got up at 06:30 hours. How long did

she sleep?

b. Sahir took 1 h 22 min to do his English homework, 45 min to do his maths homework, and 10 min to do his Urdu. How long did he take to complete all his homework?

P:45

REVIEW

1. WRITE THE NUMBER, PLACING YOUR COMMA(S) CORRECTLY.

a. eighteen thousand second forty-seven

b. three lakh, two thousand, eight hundred second sixty-four

ANSWERS: (a- 18,047) (b- 3,02,864)

2. WRITE IN EXPANDED FORM.

a. 27,02

b. 5,09,624

SOLUTION:

a. $27,02 = 20,000 + 7,000 + 0 + 20 + 9$

b. $5,09,624 = 500,000 + 0 + 9,000 + 600 + 20 + 4$

3. FILL IN THE BLANKS.

a. 62,824; _____; _____, 63, I 24; 63,224

b. I 78,699; I 79,699; _____; _____

ANSWERS: (a- 62,924 ; 63,024) (b- 180,699 ; 181,699)

4. UNDERLINE THE SMALLEST NUMBER.

a. 864,509; 864,905; 864,950

b. 719,024; 718, 240; 781,004

ANSWERS: (a- 864,509) (b- 718,240)

5. WRITE VERTICALLY SECOND COMPLETE.

a. 48,168 + 15,777 + 137,692

b. 4,60,421 - 2,79, '53

ANSWERS: (a- 517,637) (b- 180,768)

6. Multiply by 100 second place in periods.

a. 279

b. 1507

c. 731

ANSWERS: (a- 27,900) (b- 150,700) (c- 73,100)

7. DIVIDE BY 100.

a. 5 16

b. 63 18

c. 1,47,038

d. '972

e. 23,049

f. 9,62,704

ANSWERS: (a- 5 r 16) (b- 63 r 18) (c- 1470 r 38) (d- 9 r 72)
(e- 9627 r 4) (f-)

8. CONVERT KG INTO G.

a. 49 kg

b. 14 kg

c. 68 kg

d. 501 kg

e. 164 kg

f. 9 kg

ANSWERS: (a- 49,000g) (b- 14,000g) (c- 68,000g) (d- 501000g)
(e- 164,000g) (f-)

9. CONVERT ML INTO L SECOND ML.

a. 7000ml

b. 31,112ml

c. 62110 ml

d. 3,95,041 ml

e. 2,600 ml

f. 29,500 ml

10. WRITE VERTICALLY SECOND MULTIPLY.

a. $1\ 862 \times 58$

b. $1\ 473 \times 60$

c. 495×63

d. 957×700

SOLUTION:

A. 49996 B. 88,380 C. 31,185 D. 669900

11. DIVIDE IN LONG DIVISION FORM.

a. $138 \div 18$

b. $290 \div 40$

c. $7329 \div 84$

d. $5061 \div 38$

SOLUTION:

A. 7 R 12 B. 7 R 10 C. 87 R 21 D. 133 R 7

12. SOLVE THESE PROBLEMS, MAKING COMPLETE STATEMENTS.

A crossword book contains 540 puzzles. If Sue solves 12 puzzles every day, how many days will it take her to complete the book?

b. If Adil can cycle 15 km

(15,000 / h) in one hour, how far can he cycle in 12 minutes?

c. Rido went to school at

7:20 a.m. and returned 6 1/2 h later. At what time did she reach home?

P:46

PART TWO

1. LOOK CAREFULLY AT THE LIST OF NUMBERS, THEN TICK ALL THE MULTIPLES OF 4.

6, 8, 10, 12, 17, 23, 28, 34, 40

ANSWERS: 6, 8, 10, 12, 17, 23, 28, 34, 40

2. TICK ALL THE MULTIPLES OF 9.

15, 27, 48, 55, 81, 99, 126, 135, 144

ANSWERS:s: 15, 27, 48, 55, 81, 99, 126, 135, 144

3. LOOP THE COMMON MULTIPLES

a. MULTIPLES OF 4 4, 8, 12, 16, 20, 24, 28, 32

MULTIPLES of 6 6, 12, 18, 24, 30

b. MULTIPLES of 3 3, 6, 9, 12, 15, 18, 21, 24, 27

MULTIPLES of 5 5, 10, 15, 20, 25

ANSWERS:s: (a-12,12, 24,24)(b- 15,15)

4. WRITE THE SETS OF MULTIPLES, THEN LOOP THE COMMON MULTIPLES.

a. Multiples of 3 (up to 30) and multiples Of 4 (up to 32)

Multiples of 3 = 3,6,9,12,15,18,21,24,27,30

multiples Of 4 = 4,8,12,16,20,24,28,32

common multiples = 12,24

b. Multiples of 2 (up to 20) and multiples of 5 (up to 20)

Multiples of 2 = 2,4,6,8,10,12,14,16,18,20

multiples of 5 = 5,10,15,20

common multiples = 10 , 20

P:47

COMMON MULTIPLES: THE VENN DIAGRAM

I. STUDY THE DIAGRAM, THEN ANSWERS: THE QUESTIONS.

a. Write down the multiples of 4 as shown in the diagram.

b. Write down the multiples of 3 as shown in the diagram.

c. What are the common multiples of 3 second 4 shown here?

d. Which numbers are not multiples of 4 but only of 3?

e. Which numbers are multiples of neither 3 nor 4?

2. NOW MAKE A VENN DIAGRAM TO SHOW THE COMMON MULTIPLES OF 4

SECOND 6. IN YOUR RECTANGLE, INCLUDE ALL WHOLE NUMBERS UP TO 30. BELOW YOUR DIAGRAM, WRITE:

- a. All the multiples of 4 shown.
- b. All the multiples of 6 shown.
- c. All the numbers which are not multiples of 4 but only of 6.
- d. All the numbers which are multiples of neither 4 nor 6.
- e. The common multiple(s) of 4 and 6 shown in your diagram.

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LOWEST COMMON MULTIPLE (LCM)

Study the diagrams on page 47 and the Venn diagrams you have drawn in your notebook. -Now write down.

- a. LCM of numbers 2 and 3
- b. LCM of numbers 3 and 4
- c. LCM of numbers 4 and 6

2. LIST THE FIRST 5 MULTIPLES OF THE FOLLOWING PAIRS OF NUMBERS. THEN FIND THE LCM

- a. 8 and 12
- b. 3 and 8

3. NOW FIND THE LCM OF THESE SETS OF THREE NUMBERS BY LISTING THE FIRST SIX (OR MORE) MULTIPLES OF EACH NUMBER.

2, 3, and 4

multiples of 2: 2, 4, 6, 8, 10, 12

multiples of 3: 3, 6, 9, 12, 15, 18

multiples of 4: 4, 8, 12, 16, 20, 24

LCM = 12

- a. 2, 4, and 5
- b. 6, 7, and 14

c. 3,4,second6

d. 3, 8, second I2

4. THINK CAREFULLY SECOND COMPLETE.

a.If we add an even number to on other even number, we get on
—— number.

b. If we odd on odd number to another odd number, we get on
——- number.

c. If we add an even number to an odd number, we get
on ——- number.

SOLUTION:

A. EVEN B. EVEN C. ODD

P:49

INTRODUCING FACTORS

1. Just as Sid did with his pebbles, orange 20
counters in as many types of equal groups as you can. Then,
COPY AND COMPLETE this table, second write ll the factors of
20.

2. By arranging counters using other small objects, find the
Factors of these numbers.

a. I5

b. ll

c. I8

d. 21

e. 24

f. 9

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MORE ABOUT FACTORS: COMMON FACTORS SECOND HCF

1. ANSWERS: THESE IN YOUR NOTEBOOK.

Is I I a factor of 24?»... No

(24 -1- I I = 2 r 2)

Is I2 a factor of 36?

Is 7 a factor of 45?

Is 6 a factor of 66?

Is 20 a factor of 100?

Is 16 a factor of 64?

2. WRITE DOWN THE FACTORS OF THESE NUMBERS. HOW MANY FACTORS DOES EACH NUMBER HAVE?

a. 25

b. 36

c. 54

d. 32

e. 45

f. 50

Write the factors of these pairs of numbers, second ;I underline the common factors.

a. 12, 15

b. 16, 20

c. 25, 15

d. 10, 32

4. FIND THE HCF OF THE FOLLOWING.

a. 32, 24

b. 50, 25

c. 48, 30

d. 42, 70

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1. FIND THE COMMON FACTORS SECOND HCF OF EACH OF THE FOLLOWING SETS.

A: 9, 12 second 15

9= 1, 3, 9

12=1, 2, 3, 4, 12

15=1, 3, 5, 15

HCF= 3

COMMON FACTOR=1, 3

B: 5, 25 second 35

5=1, 5

25=1, 5, 25

35=1, 5, 7, 35

HCF=5

COMMON FACTOR=1, 5

C: 18, 20 second 24

18=1, 2, 3, 6, 9, 18

20=1, 2, 4, 5, 10, 20

24=1, 2, 3, 4, 6, 8, 12, 24

HCF=2

COMMON FACTOR=1, 2

D: 18, 27 second 39

18=1, 2, 3, 6, 9, 18

27=1, 3, 9, 27

39=1, 3, 13, 39

HCF=3

Common factor=1, 3

E: 12, 16 second 20

12=1, 2, 3, 4, 6, 12

16=1, 2, 4, 8, 16

20=1, 2, 4, 5, 10, 20

HCF=4

Common factor=1, 2, 4

F: 14, 49 second 28

14=1, 2, 7, 14

49=1, 7, 49

28=1, 2, 4, 7, 14, 28

HCF=7

Common factor=1, 7

2. ARE THESE STATEMENTS TRUE (T) OR FALSE (F)

A: 5 is a factor of 30

30=1, 2, 3, 5, 6, 10, 15, 30

So statement is TRUE

B: 1, 3 second 4 are only common factors of 12 second 24

12=1, 2, 3, 4, 6, 12

24=1, 2, 3, 4, 6, 8, 12, 24

Common factors=1, 2, 3, 4, 6, 12

So the statement is FALSE

C: 3 is HCF of 12 second 18

12= 1, 2, 3, 4, 6, 12

18= 1, 2, 3, 6, 9, 18

So the statement is FALSE, HCF is 6

D: the HCF of 10 second 20 is 10.

10=1, 2, 5, 10

20=1, 2, 4, 5, 10, 20

HCF=10

So the statement is TRUE.

E: 6 is a factor of 9.

9=1, 3, 9

So the statement is FALSE.

3. LOOK AT THESE PAIRS OF NUMBERS. CIRCLE THE PAIRS THAT ARE CO-PRIME NUMBERS:

A: 4 second 8

4= 1, 2, 4

8= 1, 2, 4, 8

NOT co-prime

B: 2 second 10

2= 1, 2

10= 1, 2, 5, 10

NOT co-prime

C: 5 second 9

5=1, 5

9=1, 3, 9

CO-PRIME NUMBERS

D: 2 second 17

2= 1, 2

17= 1, 17

CO- PRIME NUMBERS

E: 5 second 10

5= 1, 5

10=1, 2, 5, 10

NOT co-prime

F: 14 second 4

14= 1, 2, 7, 14

4=1, 2, 4

NOT co-prime

4. FACTORS GAME.

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THINKING ABOUT PRIME NUMBERS

1. SID SPACEWALKER IS TRYING TO REMEMBER ALL THE FACTORS OF NUMBERS FROM 1- 18. HELP HIM FILL IN THE TABLE.

NUMBER FACTORS

1 1

2 1,2

3 1,3

4 1,2,4

5 1,5

6 1,2,3,6

7 1,7

8

9
10
11
12
13
14
15
16
17
18

SOLUTION:

NUMBER FACTORS

1 1
2 1,2
3 1,3
4 1,2,4
5 1,5
6 1,2,3,6
7 1,7
8 1,2,4,8
9 1,3,9
10 1,2,5,10
11 1,11
12 1,2,3,4,6,12
13 1,13
14 1,2,7,14
15 1,3,5,15
16 1,2,4,8,16
17 1,17
18 1,2,3,6,9,18

2- NEXT SID WANTS TO SHOW HIS RESULTS ON A COLUMN GRAPH. CAN YOU DRAW THE GRAPH FOR HIM?

3. LOOK AT THE GRAPH CAREFULLY, THEN WRITE DOWN THE NUMBERS WHICH HAVE ONLY TWO DIFFERENT FACTORS.

SOLUTION:

Sid has written his answer upside down 2,3,5,7,11,13,17
DID YOU FIND SEVEN SUCH NUMBERS ALTOGETHER? SID HOS WRITTEN
HIS ANSWERS: UPSIDE DOWN.

4. Think carefully, then tick () the numbers which are
prime numbers.

- a. 15
- b. 31
- c. 24
- d. 21
- e. 32
- f. 25
- g. 29
- h. 3
- I. 37
- j. 17
- k. 45
- l. 11
- m. 18
- n. 33
- o. 25

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PRIME NUMBER

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PRIME NUMBERS AND COMPOSITE NUMBERS

3. Look at the numbers. Are they prime (P) or composite (C)
numbers? Write your ANSWERS:s in your notebook. 49... C
(factors: 1, 7, 49)

- a. 35
- b. 33
- c. 57
- d. 41
- e. 54
- f. 83

4. Think carefully, then ANSWERS: these in your notebook.

- a. Are there any even prime numbers? Can you explain?
- b. How many composite numbers and how many prime numbers are there between 1 and 50?
- c. What is the greatest prime number which is less than 40?
- d. What is the smallest prime number between 1 and 100?
- e. What is the greatest composite number below 100?

5. COPY THESE SENTENCES IN YOUR NOTEBOOK AND FILL IN THE BLANKS.

- a. Every prime number except is odd.
- b. Each prime number has exactly — factors.
- c. Number — is neither prime nor composite.
- d. All composite numbers have at Least — factors.

SOLUTION:

- a. 2 b. 2 c. 1 d. 3

6. USING PATTERNS OF YOUR OWN CHECK WHETHER. SID'S DISCOVERY IS CORRECT. CAN THESE NUMBERS BE ARRANGED IN EXACT RECTANGLES?

- a. 25
- b. 12
- c. 17
- d. 15
- e. 8
- f. 22

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PRIME FACTORIZATION

1. Here is another prime factorization.

Prime factors of 18 = 2, 3, and 3

93 OR

$66 \ 3 \times 2 \times 3 = 18$

Now draw trees of your own to show the prime factors of these.

- a. 5

- b. 20
- c. 14
- d. s
- e. 21
- f. 22
- g. 16
- h. 27
- i. 42

2. DRAW AS MANY DIFFERENT TREES AS YOU CAN TO SHOW THE PRIME FACTORS OF THESE NUMBERS.

- a. 40
- b. 48
- c. 50
- d. 24
- e. 50
- f. 72

A. Write down the list of prime numbers from 100 to 200.

b. Find the difference between every pair of two consecutive prime numbers.

P:56 TESTS OF DIVISIBILITY

I. CIRCLE THE EVEN NUMBERS.

- a. 200
- b. 126
- c. 427
- d. 187
- e. 134
- f. 2032

SOLUTION:

200, 126, 134, 2032

2. WHICH OF THE FOLLOWING ARE DIVISIBLE BY 3?

- a. 624
- b. 2358
- c. 130

d. 3612

3. WHICH OF THESE ARE DIVISIBLE BY 9 ?

a. 188

b. 2439

c. 693

d. 1800

4. WHICH OF THESE ARE DIVISIBLE BY 5?

a. 2900

b. 6054

c. 4085

d. 840,050

P:57 THE LCM AND HCF OF LARGER NUMBERS:
THE DIVISION METHOD

1. FIND THE PRIME FACTORS AND THEN THE LCM OF THESE PAIRS OF NUMBERS, USING THE DIVISION METHOD.

a. 18 & 24

b. 12 and 16

c. 20 & 25

d. 24 and 32

2. USE THE DIVISION METHOD TO FIND THE PRIME FACTORS OF THESE NUMBERS.

a. 84

b. 117

c. 333

d. 126

e. 520

f. 99

P:58 MORE ABOUT THE DIVISION METHOD

1. Using the division method, find the HCF of these pairs of numbers.

a. 12 and 20

- b. 36 and 24
- c. 14 and 35
- d. 48 and 30
- e. 15 and 21
- f. 121 and 132

4. NOW, FIND THE HCF AND LCM OF THESE PAIRS.

- a. 30 and 12
- b. 18 and 56
- c. 16 and 48
- d. 36 and 60
- e. 24 and 39
- f. 22 and 132

5. IN YOUR NOTEBOOK, DRAW THE TABLE SHOWN ABOVE. WORK OUT THE RESULTS FOR THESE PAIRS OF NUMBERS.

- a. 10 and 15
- b. 32 and 48
- c. 18 and 30
- d. 28 and 70

6. Use the division method to find the prime factors of these numbers (do not forget your tests of divisibility):

- a. 230
- b. 3200
- c. 459
- d. 4545

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REVIEW

1. WRITE DOWN THE FACTORS OF EACH NUMBER, THEN FIND THE HCF OF EACH PAIR.

- a. 9 and 15
- b. 12 and 30
- c. 7 and 21
- d. 25 and 20

2. DRAW A VENN DIAGRAM TO SHOW THE COMMON MULTIPLES OF 5 AND 4 LESS THAN 40. WHAT IS THE LCM?

3. FIND THE LCM BY LISTING THE FIRST 10 MULTIPLES OF EACH NUMBER.

- a. 2, 4, and 5
- b. 8, 6, and 12
- c. 2, 3, and 4
- d. 5, 4, and 10

4. WRITE THE FACTORS OF THESE NUMBERS.

- a. 22
- b. 48
- c. 63
- d. 32
- e. 39
- f. 56

5. WRITE THE COMMON FACTORS AND HCF OF THESE PAIRS OF NUMBERS.

- a. 20, 32
- b. 56, 28
- c. 12, 72
- d. 84, 24

6. FIND THE COMMON FACTORS AND HCF OF THESE.

- a. 8, 20, and 32
- b. 28, 21, and 35
- c. 15, 18, and 24
- d. 16, 20, and 40

- e. 10, 12, and 22
- f. 27, 36, and 45

7. CIRCLE THE PAIRS OF NUMBERS THAT ARE CO-PRIME.

- a. 2 and 7

b. 2 and 12

c. 17 and 4

d. 7 and 11

8. TICK THE PRIME NUMBERS ONLY.

a. 51

b. 630

c. 37

d. 19

e. 162

f. 5005

g. 101

h. 41

i. 217

9. TRUE OR FALSE? EXPLAIN YOURS ANSWERS: IN YOUR NOTEBOOK.

Composite numbers have only two factors.

The HCF of 12 and 20 is 2.

5 is a factor of 1,00,000.

15 is not a factor of 3000.

The LCM of 4 and 12 is 48

The LCM of 6 and 10 is 30

51 is not a prime number.

9 is not a factor of 1620.

USE THE DIVISION METHOD TO SHOW THE PRIME FACTORS OF THESE.

a. 240

b. 603

c. 715

11. FIND THE LCM AND HCF USING THE DIVISION METHOD.

a. 36 and 42

b. 15 and 40

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P:61 REMEMBERING FRACTIONS

I. WRITE THE FRACTION FOR THE COLOURED PORT OF EACH SHAPE

2. WRITE FRACTIONS AND MATCH THE WORDS. Denominator 6,

Numerator 4 = $\frac{4}{6}$

Numerator 5, Denominator 7 =

Denominator 10 Numerator 3 =

3. WRITE $>$, $<$ OR $=$

$\frac{2}{5} - \frac{3}{5}$ $\frac{5}{8} - \frac{3}{6}$ $\frac{5}{8} - \frac{5}{8}$ $\frac{6}{8} - \frac{6}{7}$

4. WRITE FIRST IN ASCENDING ORDER AND THEN IN ASCENDING ORDER.

5. WRITE WORDS IN THE BLANKS.

a. Fractions with different denominators are called——

b. In like fractions, the——-the numerator, the greater the fractional number.

c. In the pair of fractions $\frac{2}{7}$ and $\frac{3}{7}$, $\frac{3}{7}$ is——-than $\frac{2}{7}$

d. In the pair of fractions $\frac{3}{9}$ and $\frac{3}{8}$, $\frac{3}{9}$ is——-than $\frac{3}{9}$

ANSWERS: a. unlike fraction b. greater c. greater d. greater

6. WRITE FRACTIONS IN THE BLANKS

$\frac{4}{10} + \frac{3}{10}$

$\frac{7}{9} - \frac{3}{9}$ $\frac{2}{9} + \frac{3}{9} + \frac{3}{9}$

7. HOW MANY / MUCH IS:

$\frac{1}{3}$ of 36 pens? -- 12 pens

$(\frac{1}{6})$ of 2460 km

$\frac{1}{10}$ of 120 kg?

$\frac{1}{8}$ of 48 tickets?

$\frac{1}{9}$ of Rs 36,345?

P:62 MORE ABOUT EQUIVALENT FRACTIONS

I. WRITE THE EQUIVALENT FRACTIONS THAT MATCH THE DIAGRAMS.

2. FOR EACH FRACTION, WRITE 3 EQUIVALENT FRACTIONS.

$\frac{1}{5}$

$\frac{2}{5}$

$\frac{2}{7}$

1/2

3/4

3/10

3. COMPLETE THESE EQUIVALENT FRACTIONS, WRITING THE NUMERATOR OR DENOMINATOR IN PLACE OF *.

$1/2 = */4$ $10/100 = 50/*$ $2/3 = */6$ $5/50 = 10/*$ $7/10 = */30$
 $20/40 = 40/*$ $3/5 = 9/*$ $11/70 = */140$ $3/10 = 6/*$ $21/30 = */60$

4. FOR EACH FRACTION, WRITE 4 EQUIVALENT FRACTIONS.

1/30 2/40 7/12 4/20 3/16 8/14

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REDUCING EQUIVALENT FRACTIONS

I. WRITE THE EQUIVALENT FRACTIONS THAT MATCH THE DIAGRAMS.

2. COMPLETE THESE EQUIVALENT FRACTIONS.

$16/20 = 4/*$ $9/ = 3/8$ $27/30 = 9/*$ $15/50 = */10$
 $*/10 = 3/5$ $36/ = 12/18$ $10/ = 1/3$ $32/40 = 4/*$

3. FOR EACH FRACTION GIVEN BELOW, HOW MANY EQUIVALENT FRACTIONS CAN YOU MAKE BY DIVIDING BOTH THE NUMERATOR AND THE DENOMINATOR BY THE SAME FACTOR?

a 16/20 b 24/32 c 30/50 d 24/30 i
e 36/48 f 45/90 g 20/60 h 49/63 32/40

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REDUCING EQUIVALENT FRACTIONS: LOWEST TERMS

4. IN EACH SET OF EQUIVALENT FRACTIONS, CIRCLE THE FRACTION THAT IS IN ITS LOWEST TERMS.

A 2/5 4/10 6/20 8/15
B 6/14 12/28 3/7 9/21
C 9/30 3/10 12/40 21/70

SOLUTION:

5. REDUCE

THESE FRACTIONS TO THEIR LOWEST TERMS.

A b C D e f

18/24 15/25 10/12 36/48 12/18 14/42

6. WRITE THE HCF OF THESE PAIRS OF NUMBERS.

12 and 18...HCF =6

a. 20 and 16

b. 17 and 7

c. 35 and 45

d. 35 and 14

7. REDUCE THESE FRACTIONS TO THEIR LOWEST TERMS.

a 12/20 b 10/100 C

30/31

d 44/99 E

25/35 f 33/110

8. WRITE THE FRACTION THAT IS:

a. Equivalent to $\frac{2}{3}$ and has a Denominator of 24.

b. Equivalent to $\frac{16}{32}$ but is in its Lowest terms.

P:65

REMEMBERING LIKE AND UNLIKE FRACTIONS

I. CIRCLE THE SETS OF LIKE FRACTIONS.

A $\frac{3}{12}$ $\frac{2}{11}$ $\frac{5}{12}$

B $\frac{9}{20}$ $\frac{8}{10}$ $\frac{16}{20}$

C $\frac{4}{14}$ $\frac{1}{15}$ $\frac{6}{15}$

D $\frac{91}{100}$ $\frac{96}{101}$ $\frac{89}{100}$

2. ARRANGE THESE LIKE FRACTIONS IN ASCENDING ORDER.

a $\frac{18}{20}$ $\frac{11}{20}$ $\frac{19}{20}$ $\frac{3}{20}$ $\frac{5}{20}$

b $\frac{21}{25}$ $\frac{15}{25}$ $\frac{17}{25}$ $\frac{11}{25}$ $\frac{22}{25}$

3. WRITE WHETHER THE FOLLOWING PAIRS OF FRACTIONS ARE LIKE OR

UNLIKE.

a $\frac{3}{12}$, $\frac{5}{12}$ b $\frac{10}{15}$, $\frac{12}{15}$ c $\frac{18}{20}$, $\frac{19}{21}$

d $\frac{11}{20}$, $\frac{19}{20}$ e $\frac{6}{15}$, $\frac{8}{14}$ f $\frac{4}{9}$, $\frac{4}{11}$

4. ARRANGE THESE UNLIKE FRACTIONS IN ASCENDING ORDER

A $\frac{5}{12}$ $\frac{5}{15}$ $\frac{5}{9}$ $\frac{5}{16}$

B $\frac{6}{13}$ $\frac{6}{7}$ $\frac{6}{12}$ $\frac{6}{11}$

C $\frac{8}{14}$ $\frac{8}{17}$ $\frac{8}{12}$ $\frac{8}{16}$

d $\frac{10}{18}$ $\frac{10}{22}$ $\frac{10}{19}$ $\frac{10}{11}$

P:66 PROPER AND IMPROPER FRACTIONS

1. LOOK AT THE SHAPES AND ANSWERS: THE QUESTIONS IN YOUR NOTEBOOK.

How many sixths are coloured? 4

a. How many fifths are Coloured?

b. How many thirds are Coloured?

c. How many sixths are Coloured?

2. LOOK CAREFULLY AT THESE SETS OF FRACTIONS AND CIRCLE THE IMPROPER FRACTIONS.

3. IN YOUR NOTEBOOK, DRAW A TABLE LIKE THIS (BUT MAKE IT LONGER).

NOW PLACE ALL THESE FRACTIONS IN THE CORRECT COLUMN.

P:67 MIXED NUMBERS AND IMPROPER FRACTIONS

1. LOOK AT THESE SHAPES CAREFULLY. NOTE DOWN THE COLOURED FRACTIONS AS (I) IMPROPER FRACTIONS AND (II) MIXED NUMBERS.

2. EXPRESS THESE WHOLE NUMBERS AS IMPROPER FRACTIONS.

3. EXPRESS THESE MIXED NUMBERS AS IMPROPER FRACTIONS.

P:68 MIXED NUMBERS AND IMPROPER FRACTIONS

4. CHANGE THE WHOLE NUMBERS INTO THE IMPROPER FRACTION

INDICATED.

5 into thirds—

3 into sixths

2 into tenths

4 into quarters

7 into fifths

6 into thirds

5 into eighths

5. CHANGE THESE IMPROPER FRACTIONS INTO WHOLE NUMBERS.

a $12/4$ b $20/10$ c $18/6$

d $15/5$ e $24/6$ f $14/7$

g $12/3$ h $30/5$ i $32/4$

ANSWERS: a.3 b.2 c.3 d.3 e. 4 f.2 g.4 h. 6 i.8

6. USING THE SHORT METHOD CHANGE THESE MIXED NUMBERS INTO IMPROPER FRACTIONS.

A $3\frac{1}{4} = \frac{\quad}{4}$ b $2\frac{3}{10} = \frac{\quad}{10}$ c $3\frac{7}{8} = \frac{\quad}{8}$

D $1\frac{5}{12} = \frac{\quad}{12}$ e $5\frac{1}{4} = \frac{\quad}{4}$ f $2\frac{6}{8} = \frac{\quad}{8}$

G $3\frac{5}{7} = \frac{\quad}{7}$ h $6\frac{4}{11} = \frac{\quad}{11}$

SOLUTION:

A $3\frac{1}{4} = (3 \times 4 + 1)/4 = 13/4$

B $2\frac{3}{10} = (2 \times 10 + 3)/10 = 23/10$

C $3\frac{7}{8} = (3 \times 8 + 7)/8 = 31/8$

D $1\frac{5}{12} = (12 \times 1 + 5)/12 = 17/12$

E $5\frac{1}{4} = (5 \times 4 + 1)/4 = 21/4$

F $2\frac{6}{8} = (2 \times 8 + 6)/8 = 22/8$

G $3\frac{5}{7} = (3 \times 7 + 5)/7 = 26/7$

H $6\frac{4}{11} = (6 \times 11 + 4)/11 = 70/11$

P:69 MIXED NUMBERS AND IMPROPER FRACTIONS

7. USE THE SHORT METHOD TO CHANGE THESE INTO MIXED NUMBERS.

A $9/2$ b $15/4$ c $45/8$

D $7/3$ e $50/7$ f $36/11$

G $8/5$ h $22/10$ i $62/8$

J $12/7$ k $30/8$ l $35/6$

8. REDUCE THESE IMPROPER FRACTIONS TO THEIR LOWEST TERMS.
THEN, CHANGE THEM INTO MIXED NUMBERS.

A $\frac{6}{4}$ b $\frac{15}{6}$ c $\frac{150}{100}$

D $\frac{14}{8}$ e $\frac{18}{12}$ f $\frac{120}{70}$

G $\frac{9}{6}$ h $\frac{15}{10}$ i $\frac{54}{36}$

J $\frac{12}{9}$ k $\frac{20}{6}$ l $\frac{28}{21}$

P:70 FRACTIONS AND DIVISION

I. GIVE YOUR ANSWERS: S IN MIXED NUMBERS AS SHOWN.

a $26 \div 5 =$

b $31 \div 8 =$

c $43 \div 4 =$

d $52 \div 7 =$

e $53 \div 10 =$

f $45 \div 8 =$

g $20 \div 6 =$

h $135 \div 10 =$

i $150 \div 20 =$

j $58 \div 6 =$

ANSWERS:

a $26 \div 5 = \frac{26}{5} = 5 \frac{1}{5}$

b $31 \div 8 = \frac{31}{8} = 3 \frac{7}{8}$

c $43 \div 4 = \frac{43}{4} = 10 \frac{3}{4}$

d $52 \div 7 = \frac{52}{7} = 7 \frac{3}{7}$

e $53 \div 10 = 5 \frac{3}{10}$

f $45 \div 8 = \frac{45}{8} = 5 \frac{5}{8}$

g $20 \div 6 = \frac{20}{6} = 3 \frac{1}{3}$

h $135 \div 10 = \frac{135}{10} = 13 \frac{1}{2}$

I $150 \div 20 = \frac{150}{20} = \frac{15}{2} = 7 \frac{1}{2}$

j $58 \div 6 = \frac{58}{6} = 9 \frac{4}{6} = 9 \frac{2}{3}$

2. REWRITE THESE DIVISIONS AS FRACTIONS.

a $13 \div 8 =$

b $21 \div 11 =$

c $15 \div 4 =$

d $100 \div 15 =$

e $4 \div 6 =$

f $84 \div 20 =$

ANSWERS:

a $13/8$

b $21/11$

c $15/4$

d $100/15$

e $4/6$

f $84/20$

3. REWRITE THESE DIVISIONS AS FRACTIONS. WHERE POSSIBLE, REDUCE THEM TO THEIR LOWEST TERMS.

a $18 \div 10 =$

b $100 \div 50 =$

c $25 \div 15 =$

d $84 \div 40 =$

e $30 \div 18 =$

f $56 \div 49 =$

g $15 \div 12 =$

H $60 \div 35 =$

ANSWERS:

A $18 \div 10 = 18/10 \div 2 = 9/5$

B $100 \div 50 = 100/50 \div 10 = 10/5 \div 5 = 2/1$

C $25 \div 15 = 25/15 \div 5 = 5/3$

D $84 \div 40 = 84/40 \div 4 = 21/10$

E $30 \div 18 = 30/18 \div 6 = 5/3$

F $56 \div 49 = 56/49 \div 7 = 8/7$

G $15 \div 12 = 15/12 \div 3 = 5/4$

H $60 \div 35 = 60/35 \div 5 = 12/7$

P:71 COMPARING FRACTIONS: THE COMMON DENOMINATOR

I. COPY IN YOUR NOTEBOOK AND FILL IN THE MISSING SYMBOL $>$ OR $<$.

A $8/9$ — $4/9$ b $23/32$ — $21/32$

C $5/12$ — $3/12$ d $38/100$ — $77/100$

ANSWERS: (a- $>$)(b- $>$)(c- $>$)(d- $<$)

2. COPY AND FILL THE MISSING SYMBOL $<$ OR $>$.

A $8/17$ — $8/20$ b $10/100$ — $100/150$

C $\frac{6}{21}$ — $\frac{6}{15}$ d $\frac{50}{100}$ — $\frac{50}{70}$

ANSWERS: (a->)(b-<)(c->)(d-<)

3. REWRITE THESE FRACTIONS SO THAT THEY HAVE A COMMON DENOMINATOR.

A $\frac{1}{2}$ and $\frac{1}{4}$ B $\frac{3}{5}$ and $\frac{7}{15}$

C $\frac{2}{3}$ and $\frac{5}{6}$ D $\frac{11}{16}$ and $\frac{1}{6}$

ANSWERS:

A $\frac{1}{2} \times \frac{2}{2} = \frac{2}{4}$

$\frac{2}{2}$ and $\frac{2}{4}$ is answer B $\frac{3}{5} \times \frac{7}{15} =$

$\frac{3}{5} \times \frac{3}{3} = \frac{9}{15}$

So $\frac{9}{15}$ and $\frac{7}{15}$

C $\frac{2}{3} \times \frac{5}{6} =$

$\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$

SO $\frac{4}{6}$ and $\frac{5}{6}$ D $\frac{11}{16} \times \frac{1}{6} =$

$\frac{11}{18}$ and $\frac{3}{18}$

P:72 MORE ABOUT COMMON DENOMINATORS

4. REWRITE THESE FRACTIONS SO THAT THEY HAVE COMMON DENOMINATOR.

A $\frac{1}{2}$ and $\frac{2}{3}$ b $\frac{1}{6}$ and $\frac{2}{9}$ c $\frac{4}{5}$ and $\frac{1}{3}$

D $\frac{3}{8}$ and $\frac{5}{12}$ e $\frac{3}{10}$ and $\frac{3}{4}$ f $\frac{2}{7}$ and $\frac{5}{14}$

G $\frac{1}{4}$ and $\frac{2}{5}$ h $\frac{3}{4}$ and $\frac{5}{6}$

ANSWERS:

$\frac{1}{2} \times \frac{3}{3} = \frac{3}{6}$ and $\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$ so $\frac{3}{6}$ and $\frac{4}{6}$

$\frac{1}{6} \times \frac{3}{3} = \frac{3}{18}$ $\frac{2}{9} \times \frac{2}{2} = \frac{4}{18}$ so $\frac{3}{18}$ and $\frac{4}{18}$

$\frac{4}{5} \times \frac{3}{3} = \frac{12}{15}$ and $\frac{1}{3} \times \frac{5}{5} = \frac{5}{15}$ so = $\frac{12}{15}$ and $\frac{5}{15}$

$\frac{3}{8} \times \frac{3}{3} = \frac{9}{24}$ and $\frac{5}{12} \times \frac{2}{2} = \frac{10}{24}$ so $\frac{9}{24}$ and $\frac{10}{24}$

$\frac{3}{10} \times \frac{2}{2} = \frac{6}{20}$ and $\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$ so = $\frac{6}{20}$ and $\frac{15}{20}$

$\frac{2}{7} \times \frac{2}{2} = \frac{4}{14}$ so $\frac{4}{14}$ and $\frac{5}{14}$

$\frac{1}{4} \times \frac{5}{5} = \frac{9}{20}$ and $\frac{2}{5} \times \frac{4}{4} = \frac{8}{20}$ so = $\frac{9}{20}$ and $\frac{8}{20}$

$\frac{4}{3} \times \frac{3}{3} = \frac{9}{12}$ and $\frac{5}{6} \times \frac{2}{2} = \frac{10}{12}$ so = $\frac{9}{12}$ and

- a $1/2$ and $3/3 = 3/6 \times 2/3 \times 2/2 = 4/6$ so $3/6$ and $4/6$
 b $1/6$ and $2/9 = 3/18 \times 2/9 \times 2/2 = 4/18$ so $3/18$ and $4/18$
 c $4/5$ and $1/3 = 12/15 \times 1/3 \times 5/5 = 5/15$ so $12/15$ and $5/15$
 d $3/8$ and $5/12 = 9/24 \times 5/12 \times 2/2 = 10/24$ so $9/24$ and $10/24$
 e $3/10$ and $3/4 = 6/20 \times 3/4 \times 5/5 = 15/20$ so $6/20$ and $15/20$
 f $2/7$ and $2/2 = 4/14$ so $4/14$ and $5/14$
 g $1/4$ and $5/5 = 5/20$ and $2/5 \times 4/4 = 8/20$ so $5/20$ and $8/20$
 h $4/3$ and $3/3 = 9/12$ and $5/6 \times (2)/2 = 10/12$ so $9/12$ and $10/12$

5. REWRITE THESE PAIRS OF FRACTIONS SO THAT THEY HAVE A COMMON DENOMINATOR. THEN FILL IN THE CORRECT SYMBOL $>$ OR $<$.

- a $2/7$ — $3/10$ b $4/11$ — $3/8$ c $3/8$ — $4/5$
 d $9/14$ — $19/28$ e $7/10$ — $8/15$ f $11/12$ — $9/10$
 g $2/9$ — $3/7$ h $5/9$ — $20/27$

ANSWERS: (a- $<$)(b- $<$)(c- $<$)(d- $<$)(e- $>$)(f- $>$)(g- $<$)(h- $<$)

6. LOOK CAREFULLY AT THE SETS OF FRACTIONS. REWRITE THEM SO THAT THEY HAVE A COMMON DENOMINATOR. THEN, WRITE THEM IN ASCENDING ORDER.

- a $4/5$, $7/10$, $9/20$ b $5/6$, $4/9$, $13/18$ c $3/9$, $2/3$, $5/6$
 d $5/8$, $11/16$, $3/4$ e $3/4$, $5/6$, $3/8$ f $3/10$, $1/4$, $7/2$
 g $2/3$, $8/21$, $4/7$ h $3/8$, $5/12$, $11/24$

ANSWERS:

a- $4/5 \times 4/4 = 16/20$ $7/10 \times 2/2 = 14/20$ and $9/20$ ascending order is $9/20 < 7/10 < 4/5$

b- $5/6 \times 3/3 = 15/18$ $4/9 \times 2/2 = 8/18$ and $13/18$ $8/18 < 13/18 < 15/18$ ascending order is $4/9$, $13/18$, $5/6$

c- $3/9 \times 2/2 = 6/18$ $2/3 \times 6/6 = 12/18$ $5/6 \times 3/3 = 15/18$ $6/18 < 12/18 < 15/18$ ascending orders $3/9$, $2/3$, $5/6$

d- $5/8 \times 2/2 \times 10/16$ and $3/4 \times 4/4 = 12/16$ $10/16 < 11/16 < 12/16$ so ascending order is $5/8$, $11/16$, $3/4$

e- $3/4 \times 6/6 = 18/24$ $5/6 \times 4/4 = 20/24$ $3/8 \times 3/3 = 9/24$ $9/24 < 18/24 < 20/24$ so ascending order is $3/8$, $3/4$, $5/6$

f- $3/10 \times 2/2 = 6/20$ $1/4 \times 5/5 = 5/20$ and $7/20$ $5/20 < 6/20 < 7/20$ so ascending order is $1/4$, $3/10$, $7/20$

P:73 ADDITION OF FRACTIONS

1. COPY AND COMPLETE

a $5/12 + 2/11$ b $5/21 + 6/21$ c $4/18 + 3/18$

d $3/14 + 8/18$

2. ADD THESE, WRITING YOUR ANSWERS: S FIRST AS IMPROPER FRACTIONS AND THEN AS MIXED NUMBERS, WHEREVER POSSIBLE.

a $3/4 + 3/4$ b $8/15 + 9/15$

3. ADD THESE FRACTIONS, GIVING YOUR ANSWERS: S AS MIXED NUMBERS AND REDUCING THEM TO THE LOWEST TERMS.

a $4/12 + 10/12$ b $3/10 + 7/10 + 5/10$

c $11/15 + 9/15$ d $5/8 + 6/8 + 1/8$

4. ADD THE MIXED NUMBERS

a $11/3 + 44/10$ b $10 \frac{2}{7} + 13/7$ c $65/9 + 6 \frac{2}{9}$

d $155/8 + 6 \frac{1}{8}$

P:74 ADDITION OF MIXED NUMBERS

1. ADD THESE MIXED NUMBERS, MAKING SURE YOUR ANSWERS: IS IN ITS LOWEST TERMS.

a $53/5 + 2 \frac{1}{10}$ b $23/8 + 31/4$ c $45/9 + 3 \frac{1}{18}$

d $97/10 + 2 \frac{1}{5}$

2. SOLVE THE PROBLEM IN .YOUR NOTEBOOK.

PARVEZ CYCLES $1 \frac{1}{4}$ KM IN THE MORNING AND $2 \frac{2}{5}$ KM IN THE EVENING. HOW FAR DOES HE CYCLE ALTOGETHER?

a. TANIA AND RIDA WERE MAKING SOME PAPER FLOWERS. TANIA USED $17/10$ M OF PAPER AND

RIDA $1 \frac{1}{10}$ M. HOW MUCH PAPER DID THEY USE ALTOGETHER?

3. ADD THESE MIXED NUMBERS

a $2\frac{2}{5} + 3\frac{7}{10}$ b $8\frac{2}{3} + 2\frac{5}{6}$

c $1\frac{3}{8} + 2\frac{3}{4}$ d $6\frac{7}{10} + 3\frac{3}{5}$

4. ADD THESE CAREFULLY

a $3\frac{1}{2} + 1\frac{3}{4} + \frac{1}{8}$ b $4\frac{1}{3} + 6\frac{1}{4} + \frac{1}{2}$

c $5\frac{3}{10} + 1\frac{1}{5} + 1\frac{1}{2}$ d $6\frac{2}{9} + \frac{1}{3} + 10\frac{2}{3}$

P:75 SUBTRACTION OF FRACTIONS

1. COPY AND COMPLETE

a $\frac{11}{12} - \frac{6}{12}$ b $\frac{17}{18} - \frac{10}{18}$

c $\frac{13}{15} - \frac{4}{15}$ d $\frac{19}{24} - \frac{4}{24}$

a / b / c /

d / e / f /

g / h / i /

j / k / l /

a / = / b / = / c / = /

d / = / e / = / f / = /

g / = / h / = / i / = /

2. COMPLETE THESE

a $2\frac{5}{8} - 1\frac{2}{8}$ b $10\frac{11}{12} - 8\frac{6}{12}$

c $4\frac{9}{10} - 2\frac{6}{10}$ d $9\frac{7}{10} - 8\frac{6}{10}$

3. SUBTRACT THESE BY FIRST REWRITING THE FRACTIONS WITH A COMMON DENOMINATOR.

a $\frac{5}{8} - \frac{1}{2}$ b $\frac{7}{8} - \frac{3}{4}$ c $\frac{3}{8} - \frac{1}{4}$

d $\frac{1}{5} - \frac{1}{20}$ e $\frac{3}{4} - \frac{1}{8}$ f $\frac{2}{3} - \frac{1}{6}$

4. NOW COMPLETE THESE, GIVING YOUR ANSWERS: IN ITS LOWEST TERMS.

a $\frac{11}{12} - \frac{2}{3}$ b $\frac{1}{2} - \frac{6}{16}$

c $\frac{4}{5} - \frac{9}{15}$ d $\frac{2}{3} - \frac{2}{8}$

P:76 SUBTRACTION OF MIXED NUMBERS

1. COMPLETE THESE

a $6\frac{1}{2} - 4\frac{1}{8}$ b $9\frac{5}{6} - 4\frac{1}{2}$ c $5\frac{3}{4} - 1\frac{2}{3}$

d $7\frac{8}{9} - 5\frac{5}{18}$ e $7\frac{9}{10} - 2\frac{2}{5}$ f $8\frac{2}{3} - 3\frac{1}{12}$

2. NOW, SOLVE THESE PROBLEMS.

a. In one six that a batsman hit, the ball travelled $70 \frac{3}{4}$ m. In the next, the ball travelled $90 \frac{1}{2}$ m. How much further did the second ball travel than the first?

SOLUTION:

First ball traveled = $70 \frac{2}{3}$ m

Second ball traveled = $90 \frac{1}{5}$ m

Second ball traveled further than first ball = $90 \frac{1}{5} - 70 \frac{2}{3}$

For

$$90 \frac{1}{5} - 70 \frac{2}{3}$$

$$= \frac{1}{5} \times \frac{4}{4} = \frac{4}{20}$$

$$\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$$

$$= \frac{(4-15)}{20} = -\frac{11}{20} \text{ (write sign of large number)}$$

Because fraction has "-"s -ve sign.

Add and subtract 1, such that

$$\frac{1}{5} - \frac{3}{4} = 1 - 1 - = \frac{11}{20} =$$

$$\frac{20}{20} - \frac{11}{20} - 1$$

=

$$\frac{(20-11)}{20} - 1 = \frac{9}{20} - 1$$

$$\text{And } 90 - 70 = 20$$

$$90 \frac{1}{5} - 70 \frac{3}{4} = (20-1) \frac{9}{20} = 19 \frac{9}{20}$$

So

Second ball traveled $19 \frac{9}{20}$ m more than the first ball.

b. A bucket contains $12 \frac{3}{5}$ L of water. If Wasif uses $1 \frac{3}{4}$ L for his water pistol, how much water is left in the bucket?

SOLUTION:

bucket contains water = $12 \frac{3}{4}$ L

Wasif took water = $1 \frac{3}{4}$ L

Water left in bucket: $12 \frac{3}{4}$ L - $1 \frac{3}{4}$ L

Now for

$$12 \frac{3}{4} \text{ L} - 1 \frac{3}{4} \text{ L}$$

$$\frac{3}{5} \times \frac{5}{5} = \frac{15}{20}$$

$$\frac{12}{20} < \frac{15}{20} \Rightarrow \frac{3}{5} < \frac{3}{4}$$

$$12 \frac{3}{5} - 1 \frac{3}{4} = 11 + 1 + \frac{3}{5} - \frac{3}{4}$$

$$= 11 + \frac{20}{20} + \frac{12}{20} - 1 \frac{15}{20}$$

$$= 10 (20+12+15)/20 = 10 \frac{17}{20}$$

So there is $10 \frac{17}{20}$ water left in bucket

3. COMPLETE THESE CAREFULLY

a $\frac{21}{4} - \frac{12}{3}$ b $\frac{41}{10} - 2 \frac{1}{5}$ c $\frac{52}{5} - \frac{17}{10}$

d $\frac{75}{8} - 4 \frac{7}{8}$ e $\frac{33}{8} - \frac{13}{4}$ f $\frac{61}{2} - \frac{43}{5}$

g $\frac{91}{4} - \frac{63}{5}$ h $\frac{81}{3} - \frac{21}{4}$ i $\frac{101}{6} - \frac{83}{4}$

j $\frac{85}{12} - 4 \frac{5}{6}$

SOLUTION:

a $\frac{21}{4} - \frac{12}{3}$

$$\frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$$

$$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$

$$\frac{3}{12} < \frac{8}{12} \Rightarrow \frac{1}{4} < \frac{2}{3}$$

$$2 \frac{1}{4} - 1 \frac{2}{3} = 2 \frac{1}{4} + 1 - 1 \frac{2}{3} - 1$$

$$2 \frac{3}{12} + \frac{12}{12} - 1 \frac{8}{12} - 1$$

SO

$$\frac{3}{12} + \frac{12}{12} - \frac{8}{12} = \frac{(3+12-8)}{12} = \frac{7}{12}$$

$$2 - 1 - 1 = 0 \quad \text{b } \frac{41}{10} - 2 \frac{1}{5}$$

$$\frac{1}{5} \times \frac{2}{2} = \frac{2}{10}$$

$$\frac{1}{10} < \frac{2}{10} \Rightarrow \frac{1}{10} < \frac{1}{5}$$

$$4 \frac{1}{10} - 2 \frac{1}{5} = 3 \frac{1}{10} + 1 - 2 \frac{1}{5} = 3 \frac{1}{10} + \frac{10}{10} - 2 \frac{2}{10}$$

WHERE

$$\frac{1}{10} + \frac{10}{10} = \frac{2}{10} - \frac{9}{10}$$

AND

$$3 - 1 = 2$$

$$\Rightarrow 4 \frac{1}{10} - 2 \frac{1}{5} = \frac{19}{10} \quad \text{c } \frac{52}{5} - \frac{17}{10}$$

$$\frac{2}{5} \times \frac{2}{2} = \frac{4}{10}$$

$$\frac{4}{10} < \frac{7}{10} \Rightarrow \frac{2}{5} < \frac{7}{10}$$

$$5 \frac{2}{5} - 1 \frac{7}{10} = 4 \frac{2}{5} + 1 -$$

$$\frac{17}{10}$$

$$= 4 \frac{4}{10} + \frac{10}{10} - 1 \frac{7}{10}$$

$$= (4-1) + \frac{(4+10-7)}{10} = 3 + \frac{7}{10}$$

$$\Rightarrow 5 \frac{2}{5} - 1 \frac{7}{10} = 3 \frac{7}{10}$$

d $\frac{75}{8} - 4 \frac{7}{8}$

$$\frac{5}{6} < \frac{7}{8}$$

$$= 6 \frac{5}{8} + 1 - 4 \frac{7}{8}$$

$$= 6 \frac{5}{8} + \frac{8}{8} - 4 \frac{7}{8}$$

$$\begin{aligned}
&= 6 - 4 + \\
&7/8 + 8/8 - 7/8 \\
&= 2 + (5+8-7)/8 = 2 + 6/8 \\
&= 23/4 \text{ e } 33/8 - 13/4 \\
&3/8 < 6/8 \Rightarrow 3/8 < 6/8 \\
&= 2+1 + 3/8 - 1 \text{ } 3/4 \\
&= 2-1+(8+3-6)/8 \\
&= 1+ 5/8 \\
&= 1 \text{ } 5/8 \text{ f } 61/2 - 43/5 \\
&= 61/2 + 10/10 - 4 \text{ } 6/10 \\
&= 5-4 + 5/10 + 10/10 - 6/10 \\
&= 1+ (5+10-6)/10 \\
&= 1+ 9/10 \\
&= 1 \text{ } 9/10
\end{aligned}$$

g $9\frac{1}{4} - 6\frac{3}{5}$
/ h $8\frac{1}{3} - 2\frac{1}{4}$ i $10\frac{1}{6} - 8\frac{3}{4}$
j $8\frac{5}{12} - 4 \text{ } 5/6$

P:77 SUBTRACTION OF MIXED NUMBERS: REGROUPING

4. COMPLETE THESE BY CHANGING MIXED NUMBERS INTO IMPROPER FRACTIONS.

a $5 \frac{2}{3} - 2 \frac{3}{10}$

SOLUTION:

$$\begin{aligned}
5 \frac{2}{3} - 2 \frac{3}{10} &= (5 \times 3 + 2)/3 = (2 \times 10 + 3)/10 \\
&= 17/3 - 23/10 \\
&= 17/3 \times 10/10 - 23/10 \times 2/2 \\
&= 170/30 - 46/30 \\
&= 124/30 = 4 \frac{4}{30}
\end{aligned}$$

SOLUTION:

$$75/6 - 211/12 = (7 \times 6 + 5)/6 - (2 \times 12 + 11)/12$$

$$\begin{aligned}
&= 47/6 - 35/12 \\
&= 47/6 \times 2/2 - 35/12
\end{aligned}$$

$$= 94/12 - 35/12 = 59/12 = 4 \frac{11}{12}$$

c $6\frac{1}{8} - 4 \frac{3}{4}$

SOLUTION:

$$\begin{aligned}61/8 - 4 \frac{3}{4} &= (6 \times 8 + 1)/8 - (4 \times 4 + 3)/4 \\&= 49/8 - 19/4 \\&= 49/8 - 19/4 \times 2/2\end{aligned}$$

$$\begin{aligned}&= 49/8 - 38/8 \\&= 11/8 = 1 \frac{3}{8} \text{ D}\end{aligned}$$

$$91/3 - 45/6$$

SOLUTION:

$$\begin{aligned}91/3 - 45/6 &= (9 \times 3 + 1)/3 - (4 \times 6 + 5)/6 \\&= 28/3 \times 2/2 - 29/6 \\&= 56/6 - 29/6 \\&= 27/6 = 4 \frac{3}{6} = 4 \frac{1}{2}\end{aligned}$$

5. NOW COMPLETE THESE BY THE REGROUPING METHOD.

A

$$82/7 - 43/14$$

SOLUTION:

$$\begin{aligned}82/7 - 43/14 \\&= (8 \times 7 + 2)/7 - (4 \times 14 + 3)/14 \\&= 58/7 - 59/14 \\&= 58/7 \times 2/2 - 59/14 = 4 \frac{1}{4} \text{ b } 71/4 - 23/5\end{aligned}$$

SOLUTION:

$$\begin{aligned}71/4 - 23/5 &= 29/4 - 13/5 \\&= 29/4 \times 5/5 - 13/5 \times 4/4 \\&= 145/20 - 52/20 = 93/20 = 4 \frac{13}{20}\end{aligned}$$

C

$$95/8 - 33/4$$

SOLUTION:

$$\begin{aligned}95/8 - 33/4 &= 77/8 - 15/4 \\&= (77)/8 - 15/4 \times 2/2 \\&= 77/8 - 30/8 \\&= 47/8 = 5 \frac{7}{8} \text{ d } 101/2 - 64/5\end{aligned}$$

SOLUTION:

$$\begin{aligned}101/2 - 64/5 &= 21/2 - 34/5 \\&= 21/2 \times 5/5 - 34/5 \times 2/2\end{aligned}$$

$$= 105/10 - 68/10$$

$$= 37/10 = 3\frac{7}{10}$$

E

$$111/9 - 82/3$$

SOLUTION:

$$111/9 - 82/3 = 100/9 - 26/3$$

$$= 100/9 - 26/3 \times 3/3$$

$$= 100/9 - 78/9$$

$$= (100-78)/9$$

$$= 22/9 = 2\frac{4}{9} \text{ f } 92/5 - 3\frac{3}{4}$$

SOLUTION:

$$92/5 - 3\frac{3}{4} = 47/5 - 15/4$$

$$= 47/5 \times 4/4 - 15/4 \times 5/5$$

$$= 188/20 - 75/20$$

$$= 113/20 = 5\frac{13}{20}$$

6. NOW SOLVE THESE.

On Monday morning, Sid spacewalker buys $8\frac{1}{2}$ kg of potatoes. Friday morning, only $1\frac{3}{4}$ kg of them are left. How much of the potatoes has Sid used up?

SOLUTION:

Sid buys potatoes on Monday = $8\frac{1}{2}$ kg

On Friday Potatoes left = $1\frac{3}{4}$ kg

Sid used potatoes = $8\frac{1}{2} - 1\frac{3}{4}$

$$= 17/2 - 7/4$$

$$= 17/2 \times 2/2 - 7/4$$

$$= 34/4 - 7/4 = 27/4 = 6\frac{3}{4} \text{ kg}$$

So, Sid used $6\frac{3}{4}$ Kg potatoes

b. At the start of the journey, Mrs Khan has $15\frac{2}{5}$ L of petrol in her car. By the time, she reaches her destination, only $3\frac{3}{4}$ L of petrol is left. How much petrol has the car used?

SOLUTION:

total petrol in car = $15\frac{2}{5}$ L

Petrol left in Car = $3\frac{3}{4}$ L

Petrol used in car = $15 \frac{2}{5}$ L – $3 \frac{3}{4}$ L

FOR $15 \frac{2}{5}$ L – $3 \frac{3}{4}$ L

$$= \frac{77}{5} - \frac{15}{4}$$

$$= \frac{77}{5} \times \frac{4}{4}$$

$$= \frac{308}{20} - \frac{75}{20}$$

$$= \frac{233}{20} = 11 \frac{13}{20}$$

car used $11 \frac{13}{20}$ L petrol

P:78 REVIEW

1. COMPLETE THE EQUIVALENT FRACTIONS.

a $\frac{3}{5} = \frac{\quad}{10}$ b $\frac{6}{7} = \frac{\quad}{35}$

c $\frac{3}{4} = \frac{\quad}{12}$

d $\frac{5}{6} = \frac{\quad}{42}$

e $\frac{7}{8} = \frac{\quad}{24}$ f $\frac{10}{11} = \frac{\quad}{33}$

ANSWERS: (a-6) (b-30) (c-9) (d-35) (e-21) (f-30)

2. REDUCE THESE TO THEIR LOWEST TERMS.

a $\frac{24}{36}$ b $\frac{24}{30}$ c $\frac{26}{39}$

d $\frac{120}{150}$ e $\frac{18}{56}$ f $\frac{36}{96}$

SOLUTION:

A $\frac{24}{36} (\div 4) = \frac{6}{9} (\div 3) = \frac{2}{3}$

B $\frac{24}{36} (\div 2) = \frac{12}{18} (\div 3) = \frac{2}{3}$

C $\frac{26}{39} (\div 13) = \frac{2}{3}$

D $\frac{120}{150} (\div 10) = \frac{12}{15} (\div 3) = \frac{4}{5}$

E $\frac{18}{56} (\div 2) = \frac{9}{28}$

F $\frac{36}{96} (\div 4) = \frac{9}{24} (\div 3) = \frac{3}{8}$ /= /

3. WRITE THE FRACTION THAT IS:

equivalent to $\frac{5}{6}$ and has a denominator of 30.

equivalent to $\frac{7}{10}$ and has a numerator of 35.

equivalent to $\frac{48}{72}$ but is written in its lowest terms.

SOLUTION:

A $\frac{5}{6} = \frac{\quad}{30}$

$$30 \div 6 = 5$$

So= $\frac{5}{6} = \frac{25}{30}$ b $\frac{7}{10} = \frac{35}{\quad}$

$$= \frac{7}{10} = \frac{35}{50}$$

c $\frac{48}{72} (\div 2) = \frac{24}{36} (\div 4)$

$$6/9 (\div 3) = 2/3$$

4. CHANGE THESE WHOLE NUMBERS INTO IMPROPER FRACTIONS.

$$6 \text{ into sevenths} = 6 \times 7/7 = 42/7$$

$$7 \text{ into thirds} = 7 \times 3/3 = 21/3$$

$$4 \text{ into tenths} = 4 \times 10/10 = 40/10$$

$$10 \text{ into quarters} = 10 \times 4/4 = 40/4$$

5. WRITE THESE AS MIXED NUMBERS.

$$a \ 17/3 \ b \ 48/11 \ c \ 22/5$$

$$\text{ANSWERS: (a- } 5 \frac{2}{3}\text{)(b- } 4 \frac{4}{11}\text{)(c- } 4 \frac{2}{5}\text{)}$$

6. WRITE THESE AS IMPROPER FRACTIONS.

$$a \ 32/3 \ b \ 55/6 \ c \ 19/10$$

$$d \ 24/5 \ e \ 81/9 \ f \ 73/4$$

$$g \ 44/7 \ h \ 95/8 \ i \ 93/7$$

$$\text{Answers : (a- } 11 \frac{1}{3}\text{)(b- } 9 \frac{1}{6}\text{)(c- } 1 \frac{9}{10}\text{)(d- } 4 \frac{4}{5}\text{)(e- } 9\text{)(f- } 18\text{)(g- } 6 \frac{2}{7}\text{)(h- } 11 \frac{7}{8}\text{)(i- } 13 \frac{4}{7}\text{)}$$

7. REDUCE THESE TO THEIR LOWEST TERMS, THEN CHANGE INTO MIXED NUMBERS.

$$a \ 24/10 \ b \ 28/20 \ c \ 120/100$$

$$d \ 15/9 \ e \ 36/21 \ f \ 96/36$$

SOLUTION:

$$A \ 24/10 (\div 2) = 12/5 = 2 \frac{2}{5}$$

$$B \ 28/20 (\div 4) = 7/5 = 1 \frac{2}{5}$$

$$C \ 120/100 (\div 10) = 12/10 = 6/5 = 1 \frac{1}{5}$$

$$D \ 15/9 (\div 3) = 5/3 = 1 \frac{2}{3}$$

$$E \ 36/21 (\div 3) = 12/7 = 1 \frac{5}{7}$$

$$F \ 96/36 (\div 12) = 8/3 = 2 \frac{2}{3}$$

8. SOLVE THESE, WRITING YOUR ANSWERS IN THE FORM OF MIXED NUMBERS.

$$A \ 55 \div 9 \text{ SOLUTION: } 55 \div 9 = 55/9 = 6 \frac{1}{9}$$

$$B \ 50 \div 12 \text{ SOLUTION: } 50 \div 12 = 50/12 = 25/6 = 4 \frac{1}{6}$$

$$C \ 62 \div 10 \text{ SOLUTION: } 62 \div 10 = 62/10 = 31/5 = 6 \frac{1}{5}$$

$$d \ 29 \div 7 \text{ SOLUTION: } 29 \div 7 = 29/7 = 4 \frac{1}{7}$$

9. REWRITE THESE SO THAT THEY HAVE A COMMON DENOMINATOR.

a $\frac{2}{5}$ and $\frac{17}{20}$ B $\frac{3}{4}$ and $\frac{3}{5}$
c $\frac{3}{8}$ and $\frac{5}{24}$ D $\frac{27}{36}$ and $\frac{5}{18}$

SOLUTION:

A $\frac{2}{5} = \frac{8}{20}$

$\frac{2}{5} \times \frac{4}{4} = \frac{12}{20}$ so $\frac{8}{20}$ and $\frac{17}{20}$

B $\frac{3}{4} = \frac{15}{20}$

$\frac{3}{5} \times \frac{4}{4} = \frac{12}{20}$ so $\frac{15}{20}$ and $\frac{12}{20}$

C $\frac{3}{8} = \frac{9}{24}$

$\frac{3}{8} \times \frac{3}{3} = \frac{9}{24}$ so $\frac{9}{24}$ and $\frac{5}{24}$

d $\frac{5}{18} \times \frac{2}{2} = \frac{10}{36}$

so $\frac{27}{36}$ and $\frac{10}{36}$

10. ADD OR SUBTRACT

a $3\frac{1}{4} + 12\frac{4}{5}$

SOLUTION:

$3\frac{1}{4} + 12\frac{4}{5}$

$= 13\frac{1}{4} + 6\frac{4}{5}$

$= 13\frac{1}{4} \times \frac{5}{5} + 6\frac{4}{5} \times \frac{4}{4}$

$= \frac{65}{20} + \frac{256}{20} = \frac{321}{20}$

$= 6\frac{1}{20}$ B $12\frac{1}{3} + 6\frac{2}{5}$

SOLUTION:

$12\frac{1}{3} + 6\frac{2}{5}$

$= 13\frac{1}{3} + 6\frac{2}{5}$

$= 13\frac{1}{3} \times \frac{5}{5} + 6\frac{2}{5} \times \frac{3}{3}$

$= \frac{185}{15} + \frac{95}{15}$

$= 28\frac{10}{15}$

$= 28\frac{2}{3}$

c $10\frac{3}{8} + 13\frac{1}{4}$

SOLUTION:

$10\frac{3}{8} + 13\frac{1}{4}$

$= 10\frac{3}{8} + 6\frac{2}{4}$

$= 10\frac{3}{8} + 6\frac{1}{2} \times \frac{2}{2}$

$= 10\frac{3}{8} + 12\frac{4}{8}$

$= 22\frac{7}{8}$

$= 22\frac{1}{8}$ D $8\frac{3}{4} + 14\frac{1}{15}$

SOLUTION:

$$\begin{aligned}
& 8\frac{3}{4} + 1\frac{4}{15} \\
&= \frac{83}{11} - \frac{19}{15} \\
&= \frac{83}{11} \times \frac{3}{3} - \frac{19}{15} \times \frac{2}{2} \\
&= \frac{249}{30} - \frac{38}{30} \\
&= \frac{211}{30} \\
&= 7\frac{1}{30}
\end{aligned}$$

P:79

SID KNOWS THAT WORKING OUT ANSWERS IN HIS HEAD IS GOOD FOR HIS BRAIN. JUST AS DOING EXERCISES IS GOOD FOR HIS BODY. HELP HIM WORK OUT THESE PROBLEMS MENTALLY.

How many months are there in $10\frac{1}{2}$ years?

How many days were there in 24 weeks?

12 and _____ are factors of 132.

$\frac{1}{5}$ of a metre = _____ cm.

The next prime number after 11 is _____

$\frac{2}{3}$ of a day = _____ h.

Which of these are prime numbers: 61, 49, 51, 97, 100?

$4\frac{1}{2} - 1\frac{3}{4}$

$3627 \div 9 =$ _____

$\frac{3}{4}$ of a litre of milk = _____ ml.

The LCM of 4 and 5 = _____

The HCF of 48 and 30 = _____

The prime factors of 12 are _____.

Which is divisible by 5: 4932 or 8255?

Write a 4-digit number that is divisible by 9

$5\frac{1}{5} - 1\frac{1}{10} =$ _____

write 5 as an improper fraction.

how many seconds are there in $3\frac{1}{2}$ minutes?

Answers: (1-126 months) (2-168 days) (3-11) (4-20) (5-13) (6-16) (7-61,97) (8- $23\frac{1}{4}$) (9-403) (10-750 ml) (11-20) (12-240) (13-2,3) (14-8255) (15-3564) (16- $4\frac{1}{10}$) (17- $47\frac{1}{8}$) (18-210 seconds)

P:80 MORE ABOUT SHAPES: SURFACE AND AREA

1. LOOK CAREFULLY AT THE GIVEN PAIRS OF SHAPES. TICK THE SHAPE

IN EACH PAIR WHICH HAS A GREATER AREA.

2. TICK THE SHAPE WITH THE SMALLER AREA.

3. LOOK CAREFULLY AT THIS GRID AND OTHER RECTANGULAR SHAPES MARKED ON IT.

A B C D

E F G

I J

H

NOW ANSWERS THESE QUESTIONS.

- Which shapes have the same area as shape A?
- Which shapes have the same area as shape H?
- Which are the shapes with largest area and the smallest area?

ANSWERS:

- Shapes C and J have same area as shapes A.
- Shapes D and F have the same area as shape H.
- Shape with largest area = shape I shapes with smallest area = shapes A, C and J

P:81 COMPARISON OF AREAS

I. LOOK AT THIS GRID OF TRIANGLES AND THE SHAPES MARKED ON IT.

- Which shape has the largest area? (Count the number of triangles in each shape.)
- Which shape has the smallest area?
- Which covers more area, shape B or shape D?

Answer:

- Shape E has the largest area because it has triangles.
- Shape C, has the smallest area because it has 2 triangles.
- Both B and D cover same area.

2. WHICH TWO SHAPES IN EACH GROUP HAVE THE SOME AREA?

(Count the number of rectangles in each shape.)

Answer:

- a. = Shapes A and B have the same area = 4.
- b. Shapes A and B have the same area = 8.
- c. Shapes B and C' have same Area = 9 L

3. DRAW THESE SHAPES ON A GRAPH PAPER, AND WRITE THE AREA OF THESE SHAPES.

Answer:

- a. Area = 9 squares
- c. Area = 11 squares
- e. Area = 7 squares b. Area = 11 squares
- d. Area. = 12 squares
- f. Area . = 8 squares

4. ON SQUARED PAPER, DRAW DIFFERENT' SHAPES WITH ON AREA OF:

- a. 8 squares each
- b. 10 squares each
- c. 3 squares each
- d. 16 squares each

P:82 COMPARISION OF AREAS

5. DRAW THESE SHAPES ON A GRAPH PAPER, AND WRITE THE AREA OF EACH SHAPE.

6. WHAT IS THE AREA OF:

- a. the triangle ?
- b. the parallelogram?
- c. The hexagon ?
- d. The square?

7. ON SQUARED PAPER DRAW A SHAPE THAT HAS AN AREA OF:

- a. $2\frac{1}{2}$ square
- b. $10\frac{1}{2}$ square
- c. $9\frac{1}{2}$ square
- d. $14\frac{1}{2}$ square

P:83 COMPARISON OF AREAS

9. ESTIMATE THE APPROXIMATE AREAS OF THESE SHAPES (IN SQUARES)

10. ASK YOUR TEACHER FOR A LARGE SHEET OF SQUARED PAPER (GRAPH

PAPER). VERY CAREFULLY TRACE THE OUTLINE OF YOUR HAND ON IT.

- a. Estimate the area covered by your hand. Then, count 7 the squares and find the actual area.
- b. Now compare the outline of your hand with that of neighbour.
- c. Whose hand has a larger area?

P:84

AREA: SQUARE CENTIMETRES

1. WRITE DOWN THE AREA, IN CM, OF EACH SHAPE.

2. ASK YOUR TEACHER FOR SOME CENTIMETRE SQUARED PAPER. THEN, DRAW SHAPES WITH THESE AREAS.

- a $8\frac{1}{2}\text{cm}^2$
- b $9\frac{1}{2}\text{cm}^2$
- c $7\frac{1}{2}\text{cm}^2$
- d $11\frac{1}{2}\text{cm}^2$

3. LOOK AT THESE SHAPES CAREFULLY

- (i) Write the area of each shape in cm^2 .
- (ii) Measure the perimeter of each shape in cm.
- (iii) Can you think of a quick way to find the perimeters of shapes b and d, without using your ruler?

P:85 AREA AND PERIMETER

I. EACH OF THESE SHAPES IS MADE UP OF TEN SQUARES AND HAS AN AREA OF 10 cm^2 .

- (i) Calculate the perimeter of each shape.
- (ii) Which has the greatest and which has the smallest perimeter? On centimetre squared paper, draw as many shapes as you can using 16 squares (that is, each shape with an area of 16 cm^2). Then measure the perimeter of each shape.

ANSWERS: i. a. 16 cm b. 14 cm c. 22 cm

ii. c has the greatest and b has the smallest perimeter

3. DRAW THESE RECTANGLES. THEN FIND THE AREA AND PERIMETER OF

EACH.

a. $l=4$ cm, $b.=3$ cm

area= $4 \times 3=12$ cm²

perimeter = $2(4+3)= 7 \times 2 =14$ cm

b. $l=7$ cm, $b. l=4$ cm

area = 7 cm \times 4 cm = 28 cm²

perimeter = $2(7+4) =11 \times 2 =22$ cm

c. $l=5$ cm, $b. l=1$ cm

area = 5 cm \times $1 =5$ cm²

perimeter = $2(5+1) =6 \times 2 =12$ cm

d. $l=8$ cm, $b. l=2$ cm

area = 8 cm \times 2 cm = 16 cm²

perimeter = $2(8 +20) = 10 \times 2 = 20$ cm

P:86 AREA & PERIMETER

4. COPY THIS TABLE CAREFULLY IN YOUR NOTEBOOK. THEN COMPLETE IT.

RECTANGLE

LENGTH BREADTH AREA PERIMETER

4 cm 5 cm 20 cm² 18 cm

10 cm 2 cm 20 cm² 24 cm

9 cm 7 cm 63 cm² 32 cm

8 cm 7 cm 56 cm² 30 cm

11 cm 4 cm 44 cm² 30 cm

5. NOW COPY AND COMPLETE THIS TABLE.

RECTANGLE

l b Area

20 cm 5cm 100 cm²

9 cm 9cm 81 cm²

9cm 4 cm 36 cm²

9 cm 6cm 54 cm²

12 cm 10cm 120 cm²

6. NOW COPY AND COMPLETE

RECTANGLE

Perimeter l B

20 cm 6 cm 4 cm

28 cm 9 cm 5 cm

34 cm 12 cm 5 cm

70 cm 20 cm 15 cm

300 cm 100 cm 50 cm

7. NOW SOLVE THESE PROBLEMS IN YOUR NOTEBOOK.

a. A rectangle is 15 cm Long and 7 cm wide. What is its area?

SOLUTION:

$L = 15$ cm

$B = 7$ cm

Area $= 15$ cm \times 7 cm $= 105$ cm²

b. Sid Spacewalker's space-bed is 2 m Long and 1 m wide. How much area of Sid's spaceship does it occupy? And if Sid walks right round it once, what distance does he cover?

SOLUTION:

$L = 2$ m

$B = 1$ m

Area $= 2$ m \times 1 m $= 2$ m²

Distance = perimeter $= 2(2+1)$

$= 2 \times 3 = 6$ cm

P:87 AREA AND PERIMETER

8. HERE IS SID SPACEWALKER'S COLLECTION OF MAGIC CARPETS WORK OUT THE AREA OF EACH ONE.

Which carpet has the largest area?

area $= 6$ m \times 4 m $= 24$ m²

area $= 7$ m \times 3 m $= 21$ m²

area $= 4$ m \times 3 m $= 12$ m²

9. SID HOPES TO BUILD A HOUSE ON THE MOON IN 2020 C.E. AND LIVE THERE FOR A PERIOD OF 6 MONTHS. THIS IS THE PLAN OF HIS HOUSE.

What is the total area of Sid's house? Find this by adding together areas of all the six rooms.

Answers:

$$\text{Bed room} = 2 \times 4 = 8 \text{ m}^2$$

$$\text{Living room} = 3 \times 5 = 15 \text{ m}^2$$

$$\text{Play room} = 2 \times 6 = 12 \text{ m}^2$$

$$\text{Store} = 2 \times 2 = 4 \text{ m}^2$$

$$\text{Kitchen} = 3 \times 2 = 6 \text{ m}^2$$

$$\text{Bathroom} = 2 \times 2 = 4 \text{ m}^2$$

$$\text{Total area} = 8 + 15 + 6 + 4 + 6 + 4 = 43 \text{ m}^2$$

10. SOLVE THESE PROBLEMS IN YOUR NOTEBOOK.

a. Mr Kamal has a beautiful lawn in his garden. Its area is 54 m² and its breadth is 6 m. What is its length?

Solution :

$$\text{Area} = 54 \text{ m}^2$$

$$B = 6 \text{ m}$$

$$L = 54/6 = 9 \text{ m}$$

b. A swimming pool is 10 m long and covers an area of 60 m². What is its breadth?

Solution :

$$L = 10 \text{ m}$$

$$A = 60 \text{ m}^2$$

$$B = 60/10 = 6 \text{ m}$$

c. The perimeter of a field is 300 m and its length is 100 m. What is its breadth?

Solution :

$$P = 300 \text{ m}$$

$$L = 100 \text{ m}$$

$$2(L+b) = p$$

$$L+b = P/2$$

$$100 + b = 300/2$$

$$100 + b = 150$$

$$B = 150 - 100 = 50 \text{ m}$$

d. The walls around a playground measure 410 m. If one wall along the length of the playground is 80 m long, what is the

length of the wall along its breadth? What is the area of the playground?

Solution :

$$P=410 \text{ m}$$

$$L= 80 \text{ m}$$

$$2(L+B) = 410$$

$$L+b =410/2 = 205$$

$$80+5 =205$$

$$B=205 - 80$$

$$B=125 \text{ m}$$

$$\text{Area}= l \times b$$

$$=80 \times 125$$

$$=10000 \text{ m}^2$$

11. ASK YOUR TEACHER FOR A METRE RULE OR A MEASURING TAPE. THEN MEASURE AND WORK OUT:

- a. The area of your desk.
- b. The area of the board in your classroom.
- c. The area of your classroom (to the nearest m²).

Compare your ANSWERS with those of your neighbour.

P:88 REVIEW

1. WRITE THE LCM OF EACH PAIR.

- a. 7 and 8
- b. 12 and 10
- c. 4 and 6
- d. 3 and 7

ANSWERS:

$$A. \text{ L.C.M} = 7 \times 8 = 56$$

$$B. \text{ L.C.M} = 2 \times 6 \times 5 = 60$$

$$C. \text{ L.C.M} = 2 \times 2 \times 3 = 12$$

$$D. \text{ L.C.M} = 3 \times 7 = 21$$

2. WRITE DOWN ALL THE FACTORS THESE NUMBERS.

- a. 24
- b. 19

c. 84

ANSWERS:

A. $24 = 2 \times 2 \times 2 \times 3$

B. $19 = 1 \times 19$

C. $84 = 2 \times 2 \times 3 \times 7$

3. WRITE THE COMMON FACTORS AND HCF OF THESE PAIRS OF NUMBERS.

a. 12,28

b. 27,45

ANSWERS:

A. $12 = 2 \times 2 \times 3$

$28 = 2 \times 2 \times 7$

COMMON FACTORS = 2,2

HCF = $2 \times 2 = 4$

B. $27 = 3 \times 3 \times 3$

$45 = 3 \times 3 \times 5$

COMMON FACTORS = 3,3

HCF = $3 \times 3 = 9$

4. TICK THE PAIRS THAT ARE CO-PRIME NUMBERS.

a. 5 and 9

b. 2 and 7

c. 3 and 18

d. 16 and 42

ANSWERS:

A. 5 & 9 TRUE

B. 2 & 7 TRUE

C. 3 & 18

D. 16 & 42

5. FILL IN THE BLANKS.

a. Numbers which have only two different factors are called _____ numbers.

b. The factors of 5 are _____ and _____ so 5 is a _____ number. X

c. The factors of 10 are _____, _____, _____ and _____ so 10 is a _____ number.

d. Number 1 is not a _____- number because it does not have two different factors.

ANSWERS:

A. PRIME

B. 1, 5, PRIME

C. 1, 2, 5, COMPOSITE

D. PRIME

6. DRAW TREES TO SHOW THE PRIME FACTORS OF THESE.

a. 28

b. 70

c. 108

7. USE THE DIVISION METHOD TO THE PRIME FACTORS OF THESE. SHOW

a. 963

b. 1025

c. 142

ANSWERS:

$963 = 3 \times 3 \times 107$ b. $1025 = 5 \times 5 \times 41$ c. $142 = 2 \times 71$

8. FIND THE PRIME FACTORS AND THEN THE LCM OF THESE NUMBER PAIRS, USING THE DIVISION METHOD.

a. 36 and 48

b. 56 and 21

ANSWERS:

A. $36 = 2 \times 2 \times 3$ $48 = 2 \times 2 \times 2 \times 2 \times 3$ L.C.M = $2 \times 2 \times 3 \times 3 \times 2 \times 2 = 144$

B. $56 = 2 \times 2 \times 2 \times 7$ $21 = 3 \times 7$ L.C.M = $2 \times 2 \times 2 \times 3 \times 7 = 168$

9. FIND THE HCF AND LCM OF THESE PAIRS OF NUMBERS.

a. 60 and 48

b. 15 and 75

ANSWERS:

A. $60 = 2 \times 2 \times 3 \times 5$ $48 = 2 \times 2 \times 3 \times 2 \times 2$ H.C.F = $2 \times 2 \times 3 = 12$ L.C.M $2 \times 2 \times 3 \times 2 \times 2 \times 5 = 240$

10. WRITE $>$, $<$, OR $=$.

$\frac{3}{5}$ — $\frac{5}{8}$ $\frac{7}{8}$ — $\frac{17}{18}$ $\frac{16}{24}$ — $\frac{2}{3}$ $\frac{100}{6}$ — $16 \frac{2}{3}$

ANSWERS:

- A. <
- B. >
- C. =
- D. =

11. REDUCE THESE TO THEIR LOWEST TERMS, THEN CHANGE INTO MIXED NUMBERS.

$56/18$ $110/20$ $75/15$

12. ADD OR SUBTRACT.

$9 \frac{2}{3} - 3 \frac{4}{5}$ $8 \frac{1}{4} - 2 \frac{5}{6}$ $4 \frac{5}{8} + 6 \frac{1}{12}$ $7 \frac{3}{4} + 10 \frac{8}{9}$

13. SOLVE THESE PROBLEMS.

a. Two big belts in a hall start to ring together at 05:00 hours. One rings every 15 seconds and the other every 12 seconds. How often will

they ring together? $LCM = 3 \times 4 \times 5 = 60$ they will ring together after every 60s

b. Maria bought 3 cakes of the same size for her birthday.

Half of one cake was left and one-third of the other.

How much cake was left

over altogether? The cake left over = $1 + \frac{1}{2} + \frac{1}{3}$

$(6+3+2)/6 = 11/6 = 1 \frac{5}{6}$

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PART THREE

Q I. WORK WITH THE CALCULATOR SECOND FIND THE ANSWERS: 'FOR THE FOLLOWING.

a. $2/10$, $3/10$, $4/10$, $5/10$, $6/10$, $7/10$, $8/10$, $9/10$, $10/10$

b. $1/2$, $2/2$

c. $1/5$, $2/5$, $3/5$, $4/5$, $5/5$,

P:90

2-WRITE THE COLOURED PORT OF THE SHAPE AS A FRACTION AN AS A DECIMAL

ANSWER:

- A. $\frac{2}{10}$; .2
- B. $\frac{3}{10}$; .3

3- WRITE THESE FRACTIONS AS DECIMALS ?

ANSWERS:

- A. 0.2
- B. .8
- C. 0.9

4-COPY THE SHAPES BELOW 0 squared paper then color as directed

P:91

5. LOOK CAREFULLY AT THESE RULERS. WRITE THE COLOURED PART AS A FRACTION SECOND AS A DECIMAL.

ANSWERS:

- A. $\frac{5}{10}$ CM = 0.5 CM
- B. $\frac{7}{10}$ CM = 0.7 CM
- C. $\frac{3}{10}$ CM = 0.3 CM
- D. $\frac{9}{10}$ CM = 0.9 CM

WRITE THESE LENGTHS IN DESCENDING ORDER.

6.NOW LOOK AT THESE LONGER PIECES OF RULERS. WRITE THE COLOURED PART AS A FRACTION SECOND AS A DECIMAL.

WRITE THESE LENGTHS IN ASCENDING ORDER.

P:92

DECIMALS: LINE SEGMENTS SECOND NUMBER LINE

1-MEASURE THESE LINES CAREFULLY WITH YOUR RULER, THEN WRITE THE LENGTH OF EACH LINE IN FOUR DIFFERENT WAYS, AS SHOWN.

- 4 cm 2 mm;
- $4\frac{2}{10}$ cm;
- 4.2 cm;
- 42 mm

ANSWERS:

- A. 5CM 00MM, 5CM , 5.0CM , 50MM
- B. 3CM 2MM , 3 2/10 CM , 3.2CM , 32MM
- C. 4CM 7MM , 4 7/10 CM , 4.7 CM , 47MM
- D. 5 CM 4MM , 5 4/10 CM , 5.4 CM , 54MM
- E. 3CM 9MM , 3 9/10 CM , 3.9CM , 39MM

2- IN YOUR NOTEBOOK, DRAW LINE SEGMENTS OF THESE LENGTHS IN ASCENDING ORDER.

BE VERY ACCURATE!

ANSWERS:

- a. PQ 1.2 cm
- b. YZ 0.8 cm
- c. ST 4.3 cm
- d. EF 2.9 cm
- e. CD 5.5 cm
- f. MN 5.1 cm
- g. WX 3.7 cm
- h. UV cm 1.9 m
- g. ST = 3.7
- f. MN = 5.1
- e. = 5.5

3-WRITE THESE AS FRACTIONS.

2.7 9.4 11.4 4.9 0.6 9.5

2 7/10

9 4/10 11 4/10 4 9/10 6/10 9 5/10

4-WRITE THE POSITION OF THE POINT FROM 0 ON EACH OF THESE NUMBER LINES

ANSWERS:

- A. 1 5/10 CM = 1.5 CM
- B. 9/10 CM = .9 CM

5-WRITE THESE AS DECIMALS.

101/10 4/10 153/10 14 5/10 1 7/10 21 1/10

10.1

.4 15.3 14.5 1.7 21.1

6-THINK CAREFULLY, THEN WRITE THESE US DECIMALS SECOND FRACTIONS.

21 tenths

18 tenths

ANSWERS:

A. $2.1 = 2 \frac{1}{10}$

B. $1.8 = 1 \frac{8}{10}$

P:93 DECIMALS:MORE ABOUT TENTHS

7. IN YOUR NOTEBOOK, DRAW 10 SQUARES JUST LIKE THIS. THEN DIVIDE EACH SQUARE INTO 10 EQUAL STRIPS.

NOW COLOUR THE PART OF THE SQUARE INDICATED, SECOND WRITE THE CORRESPONDING FRACTION SECOND THE DECIMAL: (USE A NEW SQUARE FOR EACH.)

a. 0.4

b. $\frac{3}{10}$

c. one tenth

d. five tenths

e. $\frac{9}{10}$

f. 0.6

8. IN YOUR NOTEBOOK, COPY THE TABLE SHOWN BELOW (MAKING YOURS LONGER).

THEN PUT THE NUMBERS BELOW INTO YOUR TABLE (THE FIRST ONE HAS BEEN DONE FOR YOU IN THE TABLE ABOVE.)

a. $28 \frac{3}{10}$ b. $24 \frac{5}{10}$

c. $410 \frac{1}{10}$ d. $100 \frac{2}{10}$

e. $500 \frac{9}{10}$ f. $800 \frac{7}{10}$

Answers:

H T O t

A 2 8 3 3

B 0 2 4 5

C 4 1 0 1

D 1 0 0 2

E 5 0 0 9

F 8 0 0 7

P:94 DECIMALS: THE DECIMAL POINT, ADDITION, SUBTRACTION

9- WRITE THESE NUMBERS IN WORDS, THEN SAY THEM OUT LOUD.

- a. 606.2
- b. 1204.3
- c. 495.8
- d. 2619.6
- e. 220.1
- f. 3990.4
- g. 899.9
- h. 8029.7

Answer:

- a. Six hundred and six point two.
- b. One thousand two hundred and four point three.
- c. Four hundred and ninety five point eight.
- d. Two thousand six hundred and nineteen point six,
- e. Two hundred and twenty point one.
- f. One thousand three hundred and nine point nine.
- g. Eight hundred and ninety nine point nine.
- h. Eight thousand and twenty nine point seven.

Q.10. Write vertically and add.

10. WRITE VERTICALLY AND ADD.

a. $653.4 + 122.5$

$465.3 + 284.6$

SOLUTION: $509.1 + 482.3$

SOLUTION:

SOLUTION:

653.4

$+ 122.5$ SOLUTION:

465.3

$+ 284.6$ SOLUTION:

509.1

$+ 482.3$

775.9 749.9 991.4

11. NOW SUBTRACT THESE CAREFULLY.

- a. $985.6 - 139.5$
- b. $702.7 - 484.3$
- c. $521.8 - 199.1$
- d. $619.9 - 487.4$

SOLUTION: SOLUTION: SOLUTION: SOLUTION:

985.6

- 139.5 702.7

- 484.3 521.8

-199.1 619.9

- 487.4

846.1 218.4 322.7 132.5

12. NOW WRITE THESE VERTICALLY AND COMPLETE

a. 329.4 + 614.7 b. 759.8+196.9 C. 477.7+378.6 d.

1269.3+1769.8

SOLUTION: SOLUTION: SOLUTION: SOLUTION:

329.4

+ 614.7 759.8

+196.9 477.7

+378.6 1269.3

+1769.8

944.1 956.7 856.3 3039.1

13-WRITE VERTICALLY AND COMPLETE.

a. 602.3-455.4 b. 750.1-289.3 C. 808.4-662.7 d. 513.2-377.6

e.1219.5-846.9

SOLUTION: SOLUTION: SOLUTION: SOLUTION: SOLUTION:

a. 602.3

-455.4 b. 750.1

-289.3 C. 808.4

-662.7 d. 513.2

-377.6 e.1219.5

-846.9

146.9 460.8 145.7 135.6 372.6

P:95 DECIMALS: MULTIPLICATION & DIVISION

14- COPY AND COMPLETE.

a. T 0 . t b. T 0 . t

3 8 . 3

x 5 8 4 . 9

3 . 2

191.5 1698

+25470

2716.8

c. T 0 . t d . T 0 . t

9 3 . 7

X 7 6 0 .9

X 4 . 3

655.9 1827

24360

26187

15. ANSWERS: THESE QUESTIONS.

a. If a monkey eats 3.4 kg of bananas every day, how much will it eat in one week?

SOLUTION:

304

X7

23.8

b. A swimming pool is 23.5 m long. If Bina swims 4 lengths, how far is that altogether?

SOLUTION:

23.5

X4

94.0

16. COPY AND COMPLETE.

a. H T 0 . t

2 4 0 . 8 ÷ 8 b. H T 0 . t

8 1 2 . 4 ÷ 6

SOLUTION: SOLUTION:

8 30.1

8 135.4

240.8

24 812.4

6

00

00 21

18

08

08 32

30

00 24

24

c. H T O . t

6 5 4 . 6 ÷ 3 d. H T O . t

9 6 0 . 3 ÷ 9

SOLUTION: SOLUTION:

3 218.2 9 106.7

654.6

6 960.3

9

05

3 60

54

24

24 63

63

06

06 0

17. WRITE IN LONG DIVISION FORM SECOND COMPLETE.

a. 182.7 + 9 b. 6098.4 + 6

SOLUTION: SOLUTION:

9 20.3

5 1016.4

182.7

18 6098.4

6

027

27 009

6

0 38

36

24

24

00

c. $4601.2 + 3$ d. $1472.1 + 7$

SOLUTION: SOLUTION:

$3 \ 156.4 \ 7 \ 210.3$

469.2

$3 \ 1472.1$

14

16

15 07

07

19

18 021

021

12

12 0

18. ANSWERS: THESE QUESTIONS.

a. What length is $\frac{1}{4}$ of 84.8 m?

SOLUTION:

$\frac{1}{4}$ of 84.8 = 21.2 m

= $\frac{1}{4} \times 84.8 = 21.2$ m

b. How much is $\frac{1}{5}$ of 750.5 g?

SOLUTION:

$\frac{1}{5}$ of 750.5

=

$\frac{1}{5} \times 750.5 = 150.18$

c. Mr Shah had 27.6 l of petrol in his car. He had used $\frac{1}{6}$ liters of petrol on a drive. How many litres of petrol had he used? How much petrol was left over?

SOLUTION:

$\frac{1}{6}$ of 27.6

=

$\frac{1}{6} \times 27.6 = 4.6$ L

Petrol left over

= $27.6 - 4.6$

= 23.0 L

P:96

DECIMALS: TENTH & HUNDREDTHS

1. SHOW THE COLOURED PART OF THESE SQUARES AS A FRACTION AND AS A DECIMAL.

a.

$$4/100 = 0.04 \text{ b.}$$

$$0/100 = 0.0 \text{ c.}$$

$$7/100 = 0.07 \text{ d.}$$

$$3/100 = 0.03$$

e.

$$21/100 = 0.21 \text{ f.}$$

$$23/100 = 0.23 \text{ g.}$$

$$65/100 = 0.65 \text{ h.}$$

$$55/100 = 0.55$$

(i) WRITE THESE IN ASCENDING ORDER.

ANSWERS: b, d, a, c, e, f, h, g

(II) FIND THE SUM OF 01ND G. B. & E.

ANSWERS: a + g =

$$4/100 + 65/100 = 69/100 = 0.69$$

$$b+e = 0/100 + 21/100 =$$

$$21/100 = 0.21$$

(III) WHICH IS BIGGER; F. OR H.? BY HOW MUCH?

ANSWERS: h > f

$$h - f = 55/100 - 33/100$$

$$= 22/100 = 0.22$$

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DECIMALS: TENTHS SECOND HUNDREDTHS

2- COLOUR SQUARES TO MATCH THE DECIMAL NUMBERS.

0.03 0.18 0.51 0.75

3- ASK YOUR TEACHER FOR SQUARED PAPER (GRAPH PAPER) SECOND DRAW SQUARES OF DIFFERENT SIZES. DIVIDE EACH SQUARE INTO HUNDREDTHS. THEN COLOUR THEM TO SHOW THESE DECIMALS; USE A DIFFERENT SQUARE FOR EACH.

a 0.47 b. 0.88 c. 0.09 d. 0.07 e. 0.50 f. 0.94

4-WRITE THESE AS DECIMAL NUMBERS.

$46/100$ $7/100$ $16/100$

$46/100 = 0.46$ $7/100 = 0.07$ $16/100 = 0.16$

5. WRITE THESE AS FRACTIONS.

a. 0.15 b. 0.56 c. 0.10 d. 0.03 e. 0.01 f. 0.33

SOLUTION:

$15/100$ $56/100$ $10/100$ $3/100$ $1/100$ $33/100$

Q 6. THINK CAREFULLY, THEN FILL IN $>$, $<$, OR $=$ (USE YOUR HUNDRED SQUARES TO HELP YOU.).

a. 0.05 _____ - 0.50

b. 0.19 _____ - 0.91

c. $50/100$ _____ - 0.5

d. 0.08 _____ - 0.1

e. 0.6 _____ - 0.60

f. 0.75 _____ - $75/100$

ANSWERS: (a. $<$) (b. $<$) (c. $=$) (d. $<$) (e. $=$) (f. $=$)

7. WRITE AS DECIMAL NUMBERS. If 7 tenths 2 hundredths 0.72

a. 3 tenths 5 hundredths

b. 0 tenths 9 hundredths

c. 8 tenths 0 hundredths

d. 1 tenth 4 Hundredths

ANSWERS: (a-0.35) (b-0.09) (c- 0.80) (d- 0.14)

P:98

TENTHS AND HUNDRETHS : THE PLACE- VALUE TABLE

8. IN YOUR NOTEBOOK, COPY THE PLACE-VALUE TABLE SHOWN BELOW (MAKING YOUR TABLE LONGER).

H T O T h

4 8 2 0 3

SOLUTION:

H T U t h

B 5 0 0 5 1

C 6 0 5 5 0

D 3 2 8 0 1

E 9 9 9 9 9

F 6 9 5 6 5

THEN PUT THE NUMBERS BELOW INTO YOUR TABLE (THE FIRST ONE HAS BEEN DONE FOR YOU IN THE TABLE ABOVE.).

- a. $482 \frac{3}{100}$
- b. $500 \frac{51}{100}$
- c. $605 \frac{5}{10}$
- d. $328 \frac{1}{100}$
- e. $999 \frac{99}{100}$
- f. $695 \frac{65}{100}$

9. WRITE THESE IN ASCENDING ORDER.

1.85, 1.58, 1.79, 1.43

1.43, 1.58, 1.79, 1.85

a. 1. 2.47, 2.43, 2.48, 2.45

ANSWERS: 2.43, 2.45, 2.47, 2.48

b. 8.76, 7.86, 6.78, 8.78

ANSWERS: 6.78, 7.86, 8.76, 8.78

c. 3.81, 8.31, 8.30, 3.80

ANSWERS: 3.80, 3.81, 8.30, 8.31

10. LOOK AT THESE CAREFULLY, 'THEN WRITE THE MISSING DECIMAL.

0.1, —, 0.3 0.2

a. 15.4, —, 15.6

b. 17.8, —, 18.0

c. 18.10, — 18.12

d. 49.99, —, 50.01

e. 70.98, —, 71 .00

ANSWERS: (a-15.5) (b-17.9) (c-18.11) (d-50.00) (e-70.99)

11. WRITE THE DECIMALS AS FRACTIONS.

a. 19.94

b. 493.1

c. 24.2

d. 738.08

e. 35.9

f. $41 \frac{5}{100}$

ANSWERS :

(a- $\frac{1994}{100}$) (b- $\frac{4931}{10}$) (c- $\frac{241}{5}$) (d- $\frac{7388}{100}$) (e- $\frac{359}{10}$) (f- $\frac{41585}{100}$)

P:99

DECIMALS AND FRACTIONS

1- WRITE THESE FRACTIONS AS DECIMALS BY CHANGING THEM INTO EQUIVALENT FRACTIONS WITH DENOMINATORS 10 OR 100.

$$1/4 = 25/100 = 0.25$$

$$3/20 = 15/100 = 0.15$$

$$9/25 = 0.36$$

$$2/5 = 4/10 = 0.4$$

$$2/25 = 8/100 = 0.08$$

$$8/25 = 40/100 = 0.4$$

$$4/5 = 8/10 = 0.8$$

$$6/20 = 3/10 = 0.3$$

$$3/4 = 75/100 = 0.75$$

Q 2. WRITE THESE AS FRACTIONS OR MIXED NUMBERS IN THEIR LOWEST TERMS.

$$0.25 = 25/100 = 1/4$$

$$0.75 = 75/100 = 3/4$$

$$5.1 = 5 \frac{1}{10}$$

$$0.3 = 3/10$$

$$1.55 = 155/100 = 31/20$$

$$6.4 = 64/10 = 32/5$$

P:100

DECIMALS AND MONEY

Q 1. WRITE THESE SUMS OF MONEY AS DECIMALS. .

* Rs 46 and twenty paise — Rs 46.20

a. Rs 60 and ten paise

b. Rs 5 and five paise (think carefully!)

c. Rs 100 and eighty-five paise

d. Rs 6025 and twenty-five paise

e. Rs 300 and fifty paise

f. Rs 873 and five paise

ANSWERS: (a- Rs.60.0) (b- Rs.5.05) (c- Rs.100.85) (d- Rs.6025.25) (e- Rs.300.50) (f- Rs.873.05)

2. SID SPACEWALKER HAS BEEN ASKED TO CALL OUT THESE PRICES. WHAT WORDS SHOULD HE USE?

Rs 60.05 sixty rupees and five paise

a. Rs 105.50

ANSWER: one hundred and fifty paise

b. Rs 4820.2

ANSWER: four thousand eight hundred twenty and twenty paise

c. Rs 310.10

ANSWER: three hundred ten and ten paise

d. Rs 1659.5

ANSWER: one thousand six hundred fifty nine and fifty paise

HELP SID ADD UP HIS SHOPPING BILLS.

Sweet shop : Rs 20.15

Bakery : Rs 18.50

Video library : Rs 30.50

Total : Rs 61.15

a. Fruit shop : Rs 47.75

Toy shop : Rs 59.60

Fish shop : Rs 53.25

SOLUTION : Rs160.60

b. Newsagent : Rs 32.10

Popcorn shop :Rs 16.50

Clothes shop : Rs110.95

SOLUTION : Rs 159.55

c. Snack bar : Rs 22.35

Shoe shop : Rs 171.85

Socks shop : Rs 28.70

SOLUTION: Rs 222.90

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DECIMALS SECOND MONEY:

DECIMAL SECOND MONEY : THE FOUR OPERATIONS

1. COPY AND COMPLETE.

a. Rs 618.75 + RS 1593.55

SOLUTION:

Rs 618.75

+ RS 1593.55

RS 2212.30

b. Rs 9008.15 – RS 489.75

SOLUTION:

Rs 9008.15
– RS 489.75
Rs 8518.40

c. Rs 593.55 x 7

SOLUTION:

Rs 593.55
x 7
Rs 4154.85

d. Rs 814.40 ÷ 8

SOLUTION: 101.8

e Rs 1216.75 x 12

8 814.40

8

SOLUTION:

1216.75

x 12

14

8

243350

1216750

64

64

1460100

f. Rs 1881.90 ÷ 9

SOLUTION: 209.10

9 1881.90

18

81

81

9

9

2. ARRANGE THESE SUMS OF MONEY IN DESCENDING ORDER

Rs 100.10, Rs 101.90

Rs 100.10

Rs 101.90. Rs 100.90.

Rs 100.90

a. Rs 302.20, Rs 320.10, Rs 320.05

Answer: 320.10, 320.50, 302.20

b. Rs 99.90, Rs 100.05, Rs 100.00

Answer: 100.05, 100.0, 99.90

c. Rs 418.80, Rs 418.85, Rs 417.95

Answer: 418.85, 418.80, 417.95

3. ANSWERS: THESE QUESTIONS MAKING COMPLETE STATEMENTS.

a. A new TV costs Rs 24,065.00 Samina has only Rs 10,780.50 in her bank account. How much more money must she save before she can buy the TV?

SOLUTION:

24064.90

10780.50

Rs 13285.40

b. Danish needs a maths book costing Rs 98.75, an English book costing Rs 67.50, an atlas costing Rs 125, second a new lunch box costing Rs 105.75. How much money will all this cost his parents? "

SOLUTION:

Rs 98.75

Rs 67.50

Rs 125.00

Rs 105.75

Rs 397.00

P:102

DECIMALS AND MONEY: More about Bills

1-PREPARE BILLS FOR SID'S SHOPPING AT THESE DIFFERENT SHOPS.

(WRITE YOUR BILLS AS NEATLY AS POSSIBLE.)

Quantity Description Cost of one Total cost

2 Shorts 225 Rs 450

12 table tennis balls 9.15 Rs 109.80

5 sports caps 35.75 Rs 178.75

Grand total Rs 738.55

a-Sports shop: 2 pairs of shorts at Rs 225.00 each; 12 table tennis balls at Rs 9.15 each; 5 sports caps at Rs 35.75 each.

SOLUTION:

Name Sid Date 01.01.2016

Quantity Description Cost of one Total cost

2 Pairs of shorts Rs 225.00 Rs 450.00

12 Table tennis balls Rs 9.15 Rs 109.80

5 Sports caps Rs 35.75 Rs 178.75

Grand total Rs 738.55

b-Bookshop: 7 comics at Rs 32.35 each; 2 'Famous Five' books at Rs 87.25 each; 3 books about magic at Rs 36.35 each; a new diary costing Rs 94.65.

SOLUTION:

Name Sid Date 01.01.2016

Quantity Description Cost of one Total cost

7 Comics Rs 32.35 Rs 226.45

2 Ff books Rs 87.25 Rs 174.50

3 Books of magic Rs 36.35 Rs 109.05

1 Diary Rs 94.65 Rs 94.65

Grand total Rs 610.95

c-Bakery: 4 doughnuts at Rs 15.65 each; 2 chocolate cakes at Rs 27.25 each; 6 chicken puffs at Rs 14.85 each.

SOLUTION:

Name Sid Date 01.01.2016

Quantity Description Cost of one Total cost

4 Doughnuts Rs 15.65 Rs 62.60

2 Chocolate cakes Rs 27.25 Rs 54.50

6 Chicken puffs Rs 14.85 Rs 89.10

Grand total Rs 206.20

2-NOW PREPARE THESE BILLS, WORKING OUT THE SUMS VERY CAREFULLY.

a. Mrs Shahid: 3 packets of wrapping paper at Rs 18.50 per

packet; 2 books on electronics costing Rs 112. each; a new pen costing Rs 28.95.

SOLUTION:

Name Sid Date 01.01.2016

Quantity	Description	Cost of one	Total cost
----------	-------------	-------------	------------

3	Packets of typing	Rs 98.50	Rs 295.50
---	-------------------	----------	-----------

2	Books	Rs 112.50	Rs 225.00
---	-------	-----------	-----------

1	Pen	Rs 28.95	Rs 28.95
---	-----	----------	----------

Grand total Rs 549.45

b. Mr Aamir: 5 packets of soap at Rs 26.85 each; 4 packets of biscuits at Rs 19.40 each, 3 cookery books costing Rs 130.50 each; 2 music CD at Rs 41.75 each.

SOLUTION:

Name Sid Date 01.01.2016

Quantity	Description	Cost of one	Total cost
----------	-------------	-------------	------------

5	Soap	Rs 26.85	Rs 135.25
---	------	----------	-----------

4	Packets biscuits	Rs 19.40	Rs 77.60
---	------------------	----------	----------

3	Cookery books	Rs 130.50	Rs 391.50
---	---------------	-----------	-----------

2	Music CD's	Rs 41.75	Rs 94.95
---	------------	----------	----------

Grand total Rs 686.85

c. Mrs Khan: 4 books on computers costing Rs 180. each; a new lamp for her room costing Rs 200.75; 6 tickets for a concert at Rs 115.00 each.

SOLUTION:

Name Sid Date 01.01.2016

Quantity	Description	Cost of one	Total cost
----------	-------------	-------------	------------

4	Books	Rs 180.45	Rs 721.80
---	-------	-----------	-----------

1	Lamp	Rs 200.75	Rs 200.75
---	------	-----------	-----------

6	Tickets	Rs 115.00	Rs 690.00
---	---------	-----------	-----------

Grand total Rs 1612.55

3-USE THE UNITARY METHOD TO FIND THE COST OF:

A. 4 notebooks, if 10 notebooks cost Rs 80.50.

SOLUTION:

Cost of 10 notebooks =80.50

Cost of 1 notebooks =80.50/10

Cost of 4 notebooks = 8.05 x 4 = 32.20 Rs

B. 3 kg of wheat, if 10 kg Rs 320.50.

SOLUTION:

Cost of 10 kg wheat = 320.50

Cost of 1 kg wheat = $320.50/10$

Cost of 3 kg wheat = $32.05 \times 3 = 96.15$ Rs

C. 6 tickets to the evening show, if 8 tickets cost Rs 720.80.

SOLUTION:

Cost of 8 tickets = 720.80

Cost of 1 ticket = $720.80/8 = 90.10$

Cost of 6 tickets = $90.10 \times 6 = 540.60$ Rs

D. 5 tennis balls, if 3 tennis balls cost Rs 62.70.

SOLUTION:

Cost of 3 tennis balls = 62.70

Cost of 1 tennis ball = $62.70/3 = 20.90$

Cost of 5 tennis balls = $20.90 \times 5 = 104.50$

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DECIMALS: METRES AND CENTIMETRES

1. WRITE THESE HEIGHTS IN METRES

2 m 61 cm = 2.61 m

3 m 87 cm = 3.87 m

405 cm = 4.05 m

1 m 15 cm = 1.15 m

1102 cm = 11.02 m

2. WRITE THESE LENGTHS IN SECOND CM

13.05 m = 13 m 5 cm

a. 2.75 m = 2 m 75 cm

b. 16.83 m = 16 m 83 cm

c. 10.02 m = 10 m 2 cm

d. 240.03 m = 240 m 3 cm

3. WRITE AS MIXED NUMBERS.

* 25.02 m = $25 \frac{2}{100}$ m

a. 18.59 m = $18 \frac{59}{100}$ m

b. 103.08 m = $103 \frac{8}{100}$ m

c. 44.07 m = $44 \frac{7}{100}$ m

d. 36.10 m = $36 \frac{10}{100}$ m

4. COPY AND COMPLETE (LOOK CAREFULLY FOR + OR -

a. m b. m

12.75

+ 3.86 143.62

+ 78.59

16.61 222.21

c. m d. m

24.63

- 18.92 103.41

- 67.58

5.71 35.83

5. WRITE VERTICALLY SECOND COMPLETE.

a. 28.65 m + 16.32 m + 9.49 m b. 52.86 m + 243.95

SOLUTION: SOLUTION:

28.65

16.32

9.49 52.86

+ 243.95

54.46 296.81

c. 202.22 m - 87.93 d. 614.18 m - 39.77 m

SOLUTION: SOLUTION:

202.22

- 87.93 614.18

- 39.77

114.29 284.41

e. 38.92 m + 74.58 + 64.73 m

SOLUTION:

38.92

+ 74.58

64.73

178.23

6. ANSWER THESE QUESTIONS.

a. Sumir's desk is 1513 m long while Rahim's desk is 1.67 m long. How long are the two

desks when placed end to end? SOLUTION:

1.93

1.67

3.60

b. A door is 2.14 m high second

Javed is 1.89 m tall. How much space will there be between Javed's head second the top of the door if he goes through it?

SOLUTION:

2.14

– 1.89

0.25

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DECIMALS AND METRES: THE FOUR OPERATIONS

1. COPY THIS TABLE IN YOUR NOTEBOOK SECOND COMPLETE.

Length of rope	Length of cut off	Length left
----------------	-------------------	-------------

42.63 m	5.19 m	37.44 m
---------	--------	---------

A 56.18 m	29.35 m	26.83 m
-----------	---------	---------

B 81.24 m	48.57 m	32.67 m
-----------	---------	---------

C 67.15 m	26.96 m	40.19 m
-----------	---------	---------

2. COPY AND MULTIPLY.

a. m b. m

18.62

X 5 102.35

X 7

93.10 717.15

c. m d. m

43.58

X 9 35 I .68

X 20

392.22 7033.6

3. WRITE VERTICALLY AND MULTIPLY.

a. 73.15 m x 10 b. 58.29 m x 15 c. 84.37 m x 20 d. 110.05 m x

25

SOLUTION: SOLUTION: SOLUTION: SOLUTION:

73.15

x 10 58.29
 x 15 84.37
 x 20 110.05
 x 25
 0000
 43150 29145
 58290 0000
 16874 55025
 22010
 431.50 874.35 1687.40 2751.25
 e. 214.10 m x 31 f. 93.145 m x 22

SOLUTION: SOLUTION:

214.10
 x 31 93.45
 x 22
 21410
 64230 18690
 186900
 6637.10 2055.90

4. COPY AND COMPLETE.

a. $252 \div 4$ m b. $75.66 \div 6$ m
 SOLUTION: 6.31 SOLUTION: 12.61

4 25
 24 6 75.66
 6
 12
 12 15
 12
 4 36
 36
 6
 6

c. $10.55 \div 5$ m d. $38.07 \div 9$ m
 SOLUTION: 2.11 SOLUTION: 4.23

5 10.55
 10 9 38.07

36

5

5 20

18

5

5 27

27

0 0

5. NOW COMPLETE THESE.

a. $66.57 \text{ m} \div 7$ b. $307.89 \text{ m} \div 9$ c. $190.48 \text{ m} \div 8$ d. $369.39 \text{ m} \div 3$ e. $308.46 \text{ m} \div 6$ f. $124.65 \text{ m} \div 9$

SOLUTION: SOLUTION: SOLUTION: SOLUTION: SOLUTION: SOLUTION:

9.51 34.21 23.81 123.13 51.41 13.85

5 66.57

63 9 307.89

27 8 190.48

16 3 369.39

3 6 308.46

30 9 124.85

9

35

35 37

36 30

24 6

6 8

6 34

27

7

7 18

18 64

64 9

9 24

24 76

72

00 00 8

8 3

3 6

6 45

45

00 9

9 00 00

6. SOLVE THESE PROBLEMS.

a. A box is 1.15 m high. What is the total height of a stack of 6 such boxes? SOLUTION:

1.15

X6

6.90

b. A car is 4.75 m long. If 5 such cars are stuck bumper to bumper in a traffic jam, what will be the total length?

SOLUTION:

4.75

X5

23.75

c. Jamaal has a length of string measuring 31.02 m. If he cuts it into 7 equal pieces, how long will each piece be? SOLUTION:

P:105

1. BUILD YOUR OWN NUMBERS!

a. 5 in the hundredths place

0 in the tenths place

6 in the ones place

b. 3 in the tens place

7 in the tenths place

5 in the hundredths place

0 in the ones place

c. 3 in the hundreds place

4 in the ones place

7 in the tens place

0 in the tenths place

d. 9 in the hundredths place

9 in the tens place

4 in the tenths place

6 in the hundreds place

3 in the hundredths place

8 in the ones place

ANSWERS: (a-6.05)(b-30.75)(c-375.09)(d-698.43)

Decimal Fun Page! ,

2. COPY AND WRITE SYMBOLS IN the blanks (>, <, or =).

1.0—0.1 1.0 > 0.1

ANSWERS: (a.<)(b.<)(c.=)(d.<)(e.=)

a. 0.9 —1

b. 3.46—3.5

c. 2.0 — 2

d. 0.81—0.8

e. 9.50—9.5

3. COPY & WRITE SYMBOLS IN THE BLANKS (X OR +).

0.4 —10 = 4...

0.4 x 10 =4

a. 0.01—10 = 0.1

b. 5.0—10 = 0.5

c. 9—10 =

d. 0.85—10= 8.5

e.3—10 = 0.3

Answer: (a-x)(b-x)(c-÷)(d-x)(e- ÷)

4. USING YOUR RULER CAREFULLY, DRAW SQUARES SECOND RECTANGLES OF THESE SIZES. THEN WORK OUT THE PERIMETER OF EACH SHAPE.

Square, each side 2.3 cm

2.3 cm X 4 = 9.2 cm

Perimeter = 9.2 cm

a. Rectangle,

sides 4.2 cm second 1.8 cm SOLUTION:

2(4.2+1.8) = 12cm

Perimeter =12 cm

b. Square,
each side 3.7 cm

SOLUTION:

$$3.7 \times 4 = 14.8 \text{ cm}$$

$$\text{Perimeter} = 14.8 \text{ cm}$$

c. Rectangle,
sides 5.4 cm second 2.5 cm SOLUTION:

$$2(5.4+2.5)$$

$$=2(7.9) =15.8 \text{ cm}$$

$$\text{Perimeter} =15.8 \text{ cm}$$

P:106

DECIMALS: TENTHS, HUNDREDTHS UND THOUSANDTHS

1. Look at these numbers then Write the place value of the circled digit.

48.5 9 2..... 9 hundredths

A 16.141 Answers 1 thousandths

B 19.339 9 tens

C 90.025 0 tenths

D 284.028 2 hundredths

E 157.460 0 thousandths

F 392.159 3 hundreds

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DECIMALS: TENTHS, HUNDREDTHS AND THOUSANDTHS

2. IN YOUR NOTEBOOK, DRAW A PLACE-VALUE CHART. THEN PLACE THESE NUMBERS INTO IT CAREFULLY (THE FIRST HAS BEEN DONE FOR YOU).

H T 0 . T h th

5 0 1 . 0 1 6

a. 501.016 b. 16.106 c. 269.428 d. 279.943 e. 84.159 f. 7.642

H T U t h th

B 1 6 1 0 6

C 2 6 9 4 2 8

D 2 7 9 9 4 3

E 0 8 4 1 5 9

F 7 6 4 2

3. WRITE THESE AS DECIMAL FRACTIONS.

a $8/100$ Answers 0.008

b $1/100$ 0.001

c $7/100$ 0.007

d $4/100$ 0.004

4. COPY AND COMPLETE.

a $8/100 = 800/1000$ b $1/100 = 50/1000$

c $3/100 = 30/1000$ d $5/100 = 50/1000$

5. WRITE THE NUMBER NAMES.

10.624 ten point six two four

a. 16.081= sixteen point zero eight one

b. 212.236 = two hundred twelve point two three six

C. 40.003 = forty point zero zero three

d. 946.118 =nine hundred and forty six point one eight

6. NOW WRITE THESE AS DECIMALS.

a $18/1000$ b $51/1000$ c $27/1000$ d $73/1000$

ANSWER: (A-0.018)(B-0.051)(C-0.27)(D-0.073)

7. WRITE THESE AS DECIMAL FRACTIONS.

a. 0.002 b. 0.008 c. 0.067 d. 0.011 e. 0.005 f. 0.090

Answer: (a- $2/100$)(b- $8/100$)(c- $67/100$)(d- $11/1000$)(e- $95/1000$)(f- $90/1000$)

8. WRITE AS DECIMAL NUMBERS.

* zero point zero two three — 0.023

a. zero point one two eight = 0.128

b. two point six zero nine=2.609

c. eleven point one six zero=1.160

d. nine point zero three nine=9.039 11

P:108 TENTHS, HUNDRETHS, THOUSANDTHS

1. COPY & WRITE NUMBERS IN THE BLANKS.

4.12, 4.13, — , 4.15...4.14

a. 3.7, 3.8, —, — , 4.1

- b. 6.29, 6.30, —, —, —, 6.34
 c. 13.498, 13.499, 13.500, —
 d. 8.119, —, 8.121, — 8.123 Answer:
 (a-3.9, 4.0) (b-6.31, 6.32, 6.33)
 (c-13.501) (d-8.120, 8.122)

2. COPY & WRITE SYMBOLS IN THE BLANKS (>, <, OR =).'

100 1 1000 100 :000

- a. 0.09 — 0.019 b. 0.04 — 0.040 c. 5.050 — 5.05
 d. 23.103 — 23.013 e. 100.001 — 100.011

Answer: (a->) (b=) (c=) (d->) (e-<)

3. COPY AND WRITE IN ASCENDING ORDER.

4.17, 4.061, 4.006 — 4.006, 4.061, 4.17

- a. 1.09, 1.04, 1.10, 1.54, 1.01
 b. 2.514, 4.502, 4.506, 4.504
 c. 0.6, 0.06, 0.8, 0.008, 1.8
 d. 5.32, 5.319, 5.301, 5.331
 e. 3.002, 3.905, 2.092, 2.943 Answers

- a. 1.01, 1.04, 1.09, 1.10, 1.54
 b. 2.514, 4.502, 4.504, 4.506
 c. 0.008, 0.06, 0.6, 0.8, 1.8
 d. 5.301, 5.319, 5.320, 5.331
 e. 2.092, 2.943, 3.002, 3.905

4. COPY & WRITE THE PREDECESSOR AND SUCCESSOR OF EACH.

3.682 predecessor 3.681 successor 3.683

- a. 4.91 b. 10.001 c. 2.09 d. 9.320 e. 7.030 f. 12.0110

Predecessor Successor

- A 4.90 4.09
 B 10.000 10.002
 C 2.08 2.10
 D 9.319 9.321
 E 7.029 7.031
 F 12.039 12.041

5. COPY & WRITE IN DESCENDING ORDER.

0.1, 0.5, 0.8, 0.3

0.8, 0.5, 0.3, 0.1

5.1, 5.14, 5.0, 5.16 = 5.16, 5.14, 5.10, 5.0

3.62, 6.39, 6.4, 6.9 = 6.90, 6.40, 6.39, 3.62

2.703, 2.7, 2.2705, 2.710 = 2.710, 2.703, 2.700, 2.2705

6.9, 5.019, 5.910, 6.83 = 6.9, 6.83, 5.910, 5.019

7.035, 7.15, 7.35, 7.053 = 7.35, 7.15, 7.053, 7.035

6. COPY & WRITE THESE FRACTIONS AS DECIMALS.

A $\frac{337}{1000}$ 0.337 B $\frac{73}{1000}$ 0.073 C $\frac{751}{1000}$ 0.751

d $\frac{264}{1000}$ 0.264 E $\frac{101}{1000}$ 0.101 f $\frac{8}{1000}$ 0.008

G $\frac{509}{1000}$ 0.509 h $\frac{62}{1000}$ 0.062 i $\frac{984}{1000}$ 0.984

P:109

THINKING ABOUT DECIMAL PLACES

1. HOW MANY DECIMAL PLACES DO EACH OF THESE DECIMAL NUMBERS HAVE?

0.15 two decimal places

a. 0.4 = one decimal place

b. 0.099 = three decimal places

c. 0.068 = three decimal places

d. 2.14 = two decimal places

e. 4.069 = three decimal places

f. 1.103 = three decimal places

g. 0.875 = three decimal places

h. 5.21 = two decimal places

2. How many decimal places? Look carefully 12.99..... two decimal places

a. 3.504 = two decimal places

b. 26.730 = three decimal places

c. 23.1 10 = two decimal places

d. 162.090 = two decimal places

e. 103.8 = one decimal places

f. 87.50 = one decimal places

P:110

Q I. CONVERT THESE FRACTIONS INTO DECIMALS.

$$39/500 = 39/500 \times 2 = 78/1000 = 0.078$$

$$41/250 = 41/250 \times 4 = 164/1000 = 0.164$$

$$71/250 = 71/250 \times 4 = 284/1000 = 0.284$$

$$103/200 = 103/200 \times 5 = 515/1000 = 0.515$$

$$227/500 = 227/500 \times 2 = 454/1000 = 0.454$$

$$111/250 = 111/250 \times 4 = 444/1000 = 0.444$$

2. NOW CHANGE THESE MIXED NUMBERS INTO DECIMAL NUMBERS.

$$1 \frac{3}{10} = 13 \times 10 / 10 \times 10 = 1 \frac{30}{100} = 1.30 = 1.3$$

$$8 \frac{1}{5} = 8 \frac{1 \times 2}{5 \times 2} = 8 \frac{2}{10} = 8.2$$

$$627/100 = 627/100 = 6.27$$

$$10 \frac{47}{50} = 10 \frac{47 \times 2}{50 \times 2} = 10 \frac{94}{100} = 10.94$$

$$743/1000 = 7.043$$

$$7 \frac{121}{200} = 7 \frac{605}{1000} = 7.605$$

$$29/1000 = 2.009$$

$$8 \frac{27}{250} = 8 \frac{108}{1000} = 8.108$$

$$2 \frac{8}{25} = 2 \frac{8 \times 4}{25 \times 4} = 2 \frac{32}{100} = 2.32$$

Q 3. WRITE THESE AS MIXED NUMBERS IN THEIR LOWEST TERMS. .

a. $2.6124 = \frac{2624}{1000} = \frac{(624 \div 8)}{(1000 \div 8)} = \frac{78}{125}$ so $2.624 = \frac{278}{125}$

b. $3 \frac{1028}{1000} = \frac{328}{1000} = \frac{(28 \div 4)}{(1000 \div 4)} = \frac{7}{250}$ so $3.028 = \frac{37}{250}$

c. $5.010 = \frac{51}{10}$ so $5.010 = \frac{51}{10}$

d. $20.005 = \frac{205}{1000} = \frac{(5 \div 5)}{(1000 \div 5)} = \frac{1}{200}$ so $20.005 = \frac{201}{200}$

P:111 REVIEW

1. CAN YOU COMPLETE SID'S SPECIAL DECIMAL CROSSWORD?

CLUES ACROSS

1. When we multiply a number by 10, the digits of the number jump one place to the_____.

5. I am the name for the second place of decimals.

6. If I come of the end of a (decimal) number, do not count me as a decimal place.

7. I am another name for 'decimal point'.

9. I am 'tenth' in Latin.

12. There are 100 of me in a metre.

13. $\frac{4}{100} = \frac{\quad}{1000}$

14. 0.052 equals zero_____zero five

- two. 2. I am the name of the column 3 places to the right of the decimal point.
3. I am the number of decimal places in 6.90.
4. 3.159 is the _____ of 3.160.
8. For a fraction to be converted into a decimal fraction, its denominator must be a _____ of 10, 100, or 1000.
10. 7000 paise = _____ rupees.
11. I am the number in the tenths column of 111.695.

Clues across: (1-left)(5-hundredths)(6-dot)(7-zero)(9-)(11-centimeter)(12-forty)(13-point) Clues down (2-thousandths)(3-one)(4-predecessor)(8-factor)(10-seventy)(14- six)

2. TRUE OR FALSE?

- a. $21.7 < 21.66$
- b. The 6 in 23.569 stands for six tenths.
- c. $0.004 < 0.04$
- d. $\frac{1}{4}$ is the same as 0.125.
- e. 0.07 can be written as $\frac{7}{1000}$
- f. The decimal value of L is
- g. $3.74 > 3.7$
- h. 52.10 is the same as 52.1.

ANSWERS: a. false b. false c. true d. true e. false f. true g. true h. true

Page:112 DECIMAL and MEASURING

1-EXPRESS THESE LENGTHS AS KM (2486 m 2.486 km)

- a. 3049 m
- b. 629 m
- c. 492 m
- d. 1038 m
- e. 10,501 m
- f. 87,60 m

ANSWERS:

- a. 3.049 km
- b. 0.629 km
- c. 0.492 km
- d. 1.038 km
- e. 10.501km

f. 87.60 km

2-EXPRESS THESE WEIGHTS AS KG (628 g 0.628 kg)

a. 1432 g

b. 485 g

c. 69,571 g

d. 832 g

e. 10101 g

f. 50959

ANSWERS:

a. 1.432 kg

b. 0.485 kg

c. 69.571 kg

d. 0.832 kg

e. 10.101 kg

f. 5.095 kg

3-CHANGE THESE KILOLITRES INTO LITRES. (1.493 kl 1493l)

a. 2.493 kl

b. 0.095 kl

c. 10.069 kl

d. 22.608 kl

e. 0.802 kl

f. 0.905 kl

ANSWERS:

a. 2493 l

b. 95 l

c. 10069 l

d. 22608 l

e. 802 l

f. 905 l

4- CHANGE THESE MEASUREMENTS INTO KILO-UNITS. (2' kg second
1'80 g – 2.180 kg)

a. 5 km & 595

b. 10 kl & 408 l

c. 4 km & 602

d. 9 kg & 115 g

e. 10 kg and 538 g

ANSWERS:

a. 5.595 km

b. 10.408 kl

c. 4.602 km

d. 9.115 kg

e. 10.538g

P:113

DECIMALS & MEASUREMENT

Q 5. WRITE AS KILO-UNITS.

9 kg & 3 g 51.003 kg

a. 10 km & 16 m =

SOLUTION:

16m= $16/1000 = 0.16$ km

10 km and 16 m= $(10+0.16)$ km= 10.16 km

b. 28 kg & 100 g

SOLUTION:

100g = $100/1000 = 0.1$ kg

28kg and 100 g = $(28+0.1)$ kg= 28.10 kg

c. 19 km & 4 m

SOLUTION:

4 m = $4/1000$ m = 0.004 km

19 km and 4 m = $(19+0.004)$ km 19.004 km

d. 120 kg & 1 g

SOLUTION:

1g = $1/1000$ kg=0.001 kg

120kg 1 g= $(120+0.001)$ kg= 120.001 kg

e. 94 kl & 18 L

SOLUTION:

18L= $18/1000$ kl = 0.018 kl

94 kl & 18 L = $(94+0.01)$ kl= 94.018kl

Q 6. WRITE THESE WEIGHT AS KG & G.

6.019 kg ...6kg 19 g

a. 4.002 kg

b. 25.075 kg

- c. 10.010 kg
- d. 110.110 kg
- e. 92.100 kg
- f. 94.070 kg

ANSWERS:

- a. 4kg 2g
- b. 25kg 75g
- c. 10kg 10g
- d. 110kg 110g
- e. 92kg 100g
- f. 94kg 70g

7. COPY THIS PLACE-VALUE TABLE IN YOUR NOTEBOOK FOR ALL THE FOUR SUMS.

H	T	O	.	t	h	th
8	0	.	0	0	5	

Look carefully at these lengths then enter them in your table in decimal form. (The first has been done for you above.)

- a. 80 km 5 m
- b. 220 km 16 m
- c. 108 km 8 m
- d. 5 km 200 m

SOLUTION:

H	T	O	t	h	th
A	8	0	0	0	5
B	2	2	0	0	16
C	1	0	8	0	8
D	0	0	5	2	00

8. TRUE OR FALSE? WRITE T OR F, & EXPLAIN YOUR ANSWERS: .

4905 g = 11.095 kg (F) 4905 g = 4.905 kg

- a. 10kg & 1 g = 10.1kg
- b. 6.295 kl = 6295 l
- c. 3m 2/100 km
- d. 291 – 4-1000 kl
- e. 9.010kg = 9 kg 100g
- f. 5kg & 5g = 5.0059
- g. 38.1 km x 10 = 381 km
- h. 1 m 25 cm = 1.025 m

Answer: (a-F)(b-T)(c-F)(d-T)(e-F)(f-F) (g-T)(h-T)

P:114 SID'S HISTORY OF THE METRIC SYSTEM

P:115

DECIMALS & MEASUREMENT: THE METRIC SYSTEM

I. Here are some special words (or parts of words) used in the metric system

I Kilo (k) I thousand times ($\times 1000$)

I Hecto (H) 1 hundred times ($\times 100$)

Deca (D) 1 ten times ($\times 10$)

Deci (d) I one tenth ($\div 10$)

Centi (c) I one hundredth ($\div 100$)

I Milli (m) I one thousandth ($\div 1000$)

Now ANSWERS: these questions using the chart to help you.

I decimeter is equal to _____m.one tenth of a metre or 0.1 m

a. I hectolitre is equal to _____l .

b. I centimetre is equal to _____ m.

c. I milligram is equal to _____g.

d I decalitre is equal to _____l.

e. I kilometre is equal to _____m.

f. 2 hectometres are equal to _____ m.

g. I decigram is equal to _____g.

h. I decilitre is equal to _____l.

i. I centigram is equal to _____g.

j. 3 kilograms are equal to _____g.

k. A millilitres are equal to _____l.

l. 1/5 hectogram equals _____g.

Answer:

one hundred litre or 100 l .

one hundredth of a metre or 0.01 m

one thousandth of gram' or 0.001 g

ten times of litre or 10l.

on thousand times of metre or 1000.

two hundred metre or 200m.

one tenth of gram or 0.1g.

one tenth of litre or 0.1

one hundredth of gram or 0.01g.

three thousand times of gram or 3000
0 four thousandth time of litre or 0.004 l.
twenty gram or 20g.

P:116 THE METRIC SYSTEM

1. THINK CAREFULLY, THEN WRITE NUMBERS IN THE BLANKS.

40 mm = -- ,cm 40 mm = 4 cm

200 cm = m

60 mm = cm

4000 m = _____ km

7000 ml =l

_____ mm = 21 cm

Answer: (a-2)(b-6)(c-4)(d-7)(e-210)

2. WRITE THESE LENGTHS IN M.

531 mm 0.531 m

a. 624 mm b. 7083 mm c.1083 mm d. 62 mm e.4002 mm f. 140 mm

ANSWERS:

a. 0.624 m b. 7.083 m c.1.083 m d. 0.062 m e.4.002 m f. 0.14 m

3. WRITE THESE LENGTHS IN CM.

629 mm62.9

a. 704 mm b. 1401 mm c.1238 mm d. 5 mm e.51 mm f. 202 mm

ANSWERS:

a. 70.4 cm b. 14.01 cm c.12.38 cm d. 0.5 cm e.5.1 cm f. 20.2 cm

4. Measure these lines very carefully. Then write the length of each line in mm & then in cm.

A _____

B _____

C _____

D _____

ANSWERS:

a. 50 mm and 5 cm b. 46 mm and 4.6 cm

c. 57 mm and 5.7 cm d. 48 mm and 4.8 cm

5. NOW MEASURE THESE LINES, SECOND WRITE THEIR LENGTHS IN METRES.

A _____

B _____

C _____

D _____

ANSWERS:

a. 4.8cm or 0.048 m b. 3.7cm or 0.037 m

c. 4.4cm or 0.044 m d. 5.3 cm or 0.053 m

6. WRITE THESE LENGTHS IN MM

0.629 m 629 mm

a. 0.135 m b. 0.123 m c. 0.378 m d. 1.608 m e. 6.100 m f.

9.003 m

ANSWERS:

a. 135 mm b. 123 mm c. 378 mm d. 1608 mm e. 6100 mm f. 9003 mm

P:117 THE METRIC SYSTEM

7. WRITE THESE WEIGHTS IN kg

52 g0.052 kg

a. 604 g b. 4001 g c. 15 g d. 843 g e. 8329 g f. 2 g g. 7 g h.

14930 g

ANSWERS:

a. 0.604 Kg b. 4.001 Kg c. 0.015 Kg d. 0.843 Kg e. 8.329 Kg f.

0.002 Kg g. 0.007 Kg h. 14.930 Kg

8. WRITE IN MILLIGRAMS (mg).

10 g = 10,000 mg

a. 8 g b. 95 g c. 16 g d. 31g e. 24 g f. 50 g

ANSWERS:

a. $8 \times 1000 = 8000\text{mg}$ b. $95\text{g} = 95 \times 1000 = 95000\text{mg}$ c. $16\text{g} = 16$

$\times 1000 = 16000\text{mg}$ d. $3\text{g} = 3 \times 1000 = 3000\text{mg}$ e. $24\text{g} = 24 \times 1000$

$= 24000\text{mg}$ f. $50\text{g} = 50 \times 1000 = 50000\text{mg}$

9. WRITE THESE WEIGHTS IN g.

38 mg 0.038 g

a. 52 mg b. 6 mg c. 614m mg d. 5943 mg

ANSWERS:

a. $52 \text{ mg} = 52 \div 1000 = 0.052 \text{ g}$ b. $6 \text{ mg} = 6 \div 10000 = 0.006 \text{ g}$

c. $614 \text{ mg} = 614 \div 1000 = 0.614 \text{ g}$ d. $5943 \text{ mg} = 5943 \div 1000 =$

5.943 g

10. WRITE IN mg.

1.6 g 1600 mg

a. 2.4 g b. 3.02 g c. 5516 g d. 6.801 g e. 0.01 g f. 0.004 g

Answers :

$$2.4\text{g} = 2.4 \times 1000\text{mg} = 2400 \text{ mg}$$

$$3.02 \text{ g} = 3.02 \times 1000\text{mg} = 3020\text{mg}$$

$$5.96\text{g} = 5.96 \times 1000\text{mg} = 5960\text{mg}$$

$$6.801\text{g} = 6.801 \times 1000\text{mg} = 6801 \text{ mg}$$

$$0.01\text{g} = 0.01 \times 1000\text{mg} = 10\text{mg}$$

$$0.004\text{g} = 0.004 \times 1000\text{mg} = 4\text{mg}$$

11. WRITE VERTICALLY & COMPLETE.

$$0.143 \text{ g} + 1.297 \text{ g}$$

SOLUTION:

$$0.143 \text{ g}$$

$$+ 1.297 \text{ g} \quad 6.014 \text{ g} - 4.938 \text{ g}$$

SOLUTION:

$$6.014 \text{ g}$$

$$- 4.938 \text{ g} \quad 7.068 \text{ g} - 3.172 \text{ g}$$

SOLUTION:

$$7.068 \text{ g}$$

$$- 3.172 \text{ g}$$

$$1.440\text{g} \quad 1.076\text{g} \quad 3.896\text{g}$$

12. WRITE THESE CAPACITIES IN ml

1.62 L 1620 ml

a. 2.04 L b. 10.004 L c. 0.634 L d. 0.96 L e. 4. I 5 L f.

11.4 L

ANSWERS:

a. 2040 mL b. 10004 mL c. 634 mL d. 960 mL e. 4150 mL f. 1140 mL

13. CHANGE THESE INTO L. 4 ml 0.004 l

a. 5 ml b. 23 ml c. 16 ml d. 908 ml

Answer: (a-0.005 L)(b-0.023L)(c-0.016L)(d-0.908L)

14. EXPRESS THESE AS kl. 493 l 0.493 kl

a. 23 l b. 8 l c. 691 l d. 59 l e. 104 l f. 5 l

SOLUTION:

a. 0.023 kl b. 0.008 kl c. 0.691 kl d. 0.059 kl e. 0.104 kl f. 0.005 kl

I5. CHANGE INTO L. 69.2 kl 69,200 l

a. 14.01 kl b. 20.639 kl c. 7.243 kl d. 1.05I kl e. 0.03 kl f. 8.06 kl

I6. WRITE VERTICALLY & COMPLETE.

a. 0.63I g x 5 b. 1.072 l x 4 c. 0.059 kg x I0 d. 6.432 kl x 8

SOLUTION: SOLUTION: SOLUTION: SOLUTION:

0.63I

x 5 1.072

x 4 0.059

x I0 6.432

x 8

3.155 4.288 0000

0590 51.456

0.590

P:118 METRIC WORD PROBLEMS

1. SOLVE THESE PROBLEMS IN YOUR NOTEBOOK, MAKING COMPLETE STATEMENTS.

a. Alam cycles 4.75 km every day. How far does he cycle in 5 days?

SOLUTION:

Alam cycles every day = 4.75 km

Alam cycles in 5 days = 4.75 km x 5

5 4.75

X5

23.75

So Alam Cycles in 5 days = 23.75 km

b. A bookcase is 80 cm high. It sits on top of a cupboard which is 1.45 m high. What is their combined height?

SOLUTION:

A book case high 1: 80cm

A Cup board high = 1.45 m

So

A cup board height $= (1.45 \times 100)$ m = 145cm

so Combine high = $(80 + 45)$ cm 18

145

+80

225

so combined high = 225 cm or 2.25 m.

c. Saima's magic rose plant grows 10 mm each month. How many centimetres will it grow in one year?

SOLUTION:

1mm = 10cm

so As Saima's magic rose grows = 10 mm

= 100cm

1year = 12-months

so in 1 year Saima's magic rose = 100×12 months

1 00

x 1 2

1200

So in 1 year Saima's magic rose grows = 1200 cm

d. The perimeter of a tennis court is 69.48 m. How many metres long is the other side of the court if one side is 10.97 m?

SOLUTION:

Perimeter of a tennis court = 69.48m

one side of tennis court A = 10.97m

so other side of the court = $(69.48 - 10.97)$

69.48

-10.97

58.51

so other side of the court 58.51 m

e. Saleem runs round a 500-metre track 15 times during a training session. How many kilometres does he run altogether?

e. Saleem runs round a track = 500m

Saleem runs on track = 15 times

so Saleem runs on track = (500×15) m

500

X15

7500

f. Moham broke the 3.95 m record for long jump by 20 cm. What was the new long jump record she set?

f. Old record in long jump = 3.95m = 395cm

new record by Maham = $(395+20)$ cm

=405cm=4.05m

2. SOLVE THESE IN YOUR HEAD, THEN WRITE THE ANSWERS:S.

a. 25 cm, 2 km, 150 cm, 250 cm, 30 m: Add the two longest distances together.

SOLUTION:

The two longest distance are 2 km and 30 m

so as 1 km = 1000 m

so 2 km = 2000 m

2000 m

30 m

2030 m

b. If one side of a square field measures 51.5 m, what is the perimeter of the field?

SOLUTION:

One side of a square field = 51.5 m

so perimeter of the field = 4×51.5 m

51.5

X4

206.0

so perimeter of the field = 206m

c. 130 g, 22 g, 10 kg, 41 g, 8 kg: Add the heaviest to the lightest of these weights.

SOLUTION:

heaviest = 10 kg

lightest = 22 g

1kg = 1000g

10 kg = 10000 g

so

10000

+22

10022 g

3. NOW SOLVE THESE, MAKING COMPLETE STATEMENTS.

a. Sid bought 1 kg of apples, 0.5 kg of plums, 0.75 kg of grapes, and 2.25 kg of tomatoes. What was the total weight in kg?

SOLUTION:

a. Apples 1.00 kg

Plums 0.50 kg

grapes 0.75 kg

tomatoes 2.25 kg

4.50 kg

So total weight = 4.50 kg

SOLUTION:

b. Rohail weighs 23.423 kg. His father weighs exactly three times Rohail's weight. How much does Rohail's father weigh?

SOLUTION:

Rohail's weight = 23.423 kg

Rohail's Father weight = 3 times Rohail's

so Rohail's father weight = 23.423 kg x 3

23.423

X30

70.269

so Rohail's father weight = 70.269 kg

c. Which is heavier—a 5-kg sack of rice or two 750 g bags of sugar? By how much?

SOLUTION:

Sack of rice = 5 kg

Two bags of sugar = 750 g

as 1000 g = 1 kg

so two bags of sugar = 0.75 kg x 2

So one-bag weight = 0.358

so sack of rice are heavier than bag of sugar

so

5.00

– 1.50 kg

3.50 kg

3.50 kg more heavier sack of rice than bags of sugar.

d. A big chocolate cake weighs 2.864 kg. If it is cut into 8 equal slices, how much will each slice weigh?

SOLUTION:

Total weight of cake = 2.864 kg

It cuts into slices = 8 equal

One slice weight = $2.864 \div 8$

0.358

8 2.864

2.4

0.46

0.46

0.064

0.064

So one slice weight = 0.358

P:119 MORE METRIC WORD PROBLEMS

4. THINK CAREFULLY, THEN SOLVE THESE PROBLEMS IN YOUR NOTEBOOK, MAKING COMPLETE STATEMENTS.

a. Anila bought 2 l of green paint, 1/4 l of blue paint, 250 ml of white paint and 5/2 l of yellow paint. How much paint was that altogether? (Give your ANSWERS:

green paint = 2 L

blue paint = 1/4 L

white = $(250 \div 1000) = 0.25$ L, 1/4 L

yellow paint = 5/2 L

so total paint = 2 L + 1/4 L + 1/4 L + 5/2 L

$= (2 + 1/4 + 1/4 + 5/2) \text{ L}$

$= (8 + 1 + 1 + 10) / 4$

$= 24 / 4$

=6

b. A water tanker carried 12,000 l of water. When the tanker returned, its tank was one quarter full. What quantity of water had been delivered?

SOLUTION:

Total water in tanker = 12000 L

Water left = $\frac{1}{4} \times 12000$ L

remaining water = 3000 L

water delivered = $12000 - 3000 = 9000$ L

c. In a factory, a machine fills twenty 100 ml bottles with oil in one minute. How many litres of oil are bottled in one hour? If 1.5 ml of water leaks from a tap in one minute, how much water will be wasted in an hour?

SOLUTION:

In 1 minute = 20×100 ml

In 1 hour = $20 \times 100 \times 60$ ml

$= (20 \times 100 \times 60) / 1000$

$= 120$ L

d. if 1.5 ml of water leaks from a tap in one minute, how much water will be wasted in $\frac{3}{4}$ hours?

SOLUTION:

leakage of water in one minute = 1.5 ml

leakage of water in $\frac{3}{4}$ hour = $\frac{3}{4} \times 60$

$= 1.5 \times 3 \times 15$ ml

$= 22.5 \times 3$

$= 67.5$ ml

e. At Alamgir School, there are three fish tanks. They can hold 4.5 l, 6.25 l, and 4.875 l of water each. How much water would be needed to fill all three tanks?

SOLUTION:

Fish tanks = 3

Water needed = " 4.5 L + 6.25L + 4.875L

4.50 L

6.250L

4.8751

15.675 L

so total water needed = 15.675 L

5. NOW SOLVE THESE, THINKING VERY CAREFULLY BEFORE YOU ANSWERS:.

a. The sides of a triangle measure 4.5 cm, 3.2 cm, and 4.3 cm. Find one-half of the perimeter of this triangle. Then express your ANSWERS in metres.

SOLUTION:

Sides of a triangle are = 4.5 cm, 3.2 cm and 4.3 cm

Perimeter of triangle = $4.5 + 3.2 + 4.3 = 12$ cm

$\frac{1}{2}(\text{perimeter}) = \frac{1}{2} \times 12 = 6$ cm

$\frac{1}{2}$ (perimeter) in meter = $\frac{6}{100}$ m = 0.06 m

b. Four 25-cm pieces are cut from a length of wood. This leaves 1.39 m. How long, was the original piece of wood? What is the difference in weight between ten 15 g packets and two 5 kg packets?

SOLUTION:

One piece length of wood = 25 cm

leaves = 1.39 m

length of the wood initially = 4×25 cm + 1.39 m

= 100 cm + 1.39

= 1 m + 1.39

= 2.39 m

c. what is the difference in weight between ten 15 g packets and two 1/2 kg packets?

SOLUTION:

1 packet = 15 g

10 packet = 15×10 g

1 packet = $\frac{1000}{2}$ g = 500

2 packet = 2×500 g = 1000 g

So difference is = $(1000 - 150)$ g

= 850 g

d. Sana made 6 l of chocolate milkshake. Her brother, Ali, took half of this. Sana shared the rest with her 3 friends. How much milkshake did each of the four girls have?

SOLUTION:

Total milk shake = 6L

Ali's took shake = $\frac{1}{2} \times 6 \text{ L} = 3\text{L}$

left milk shake = $6\text{L} - 3\text{L} = 3\text{L}$

each girl took milkshake = $\frac{3}{4}$ litter

there are four girls.

e. A pocket dictionary is 20 mm thick. How many of these dictionaries are needed to form o pile 48 cm high?

SOLUTION:

Thickness of one = 20 mm

$=20/100 = 2 \text{ cm}$

A pipe height = 48cm

number of dies = $48/2=24$

P:120 REVIEW

1. LOOK CAREFULLY AT THIS NUMBER:

4143.629

a. hundreds place? B. thousandths place? C. ones place? D. tenths place? E. thousandths place? F. tens place g. hundredths place?

WHAT THE DIGIT IN EACH OF THE FOLLOWING PLACES.

Answer: (a-1)(b-9)(c-3)(d-6)(e-4)(f-4) (g-2)

2. WRITE THESE AS DECIMALS.

a $\frac{3}{1000}$ 0.0003

b $\frac{9}{10}$ 0.9

c $\frac{69}{1000}$ 0.069

d $\frac{8}{10}$ 0.08

e $\frac{72}{100}$ 0.72

f $\frac{501}{1000}$ 0.501

3. COPY & WRITE SYMBOLS IN THE BLANKS (>, <, OR =).

a. $\frac{20}{100}$ —- $\frac{20}{10}$

b. 200 g — 0.2 kg

c. 0.5 —- 0.05

d. 1.65kl — 170 l

e. 1.19 — 1.90

f. 48 cm ——— 4.85 m

Answer: (a-<)(b-=)(c->)(d->)(e-<)(f-<)

4. WRITE THESE AS FRACTIONS OR MIXED NUMBERS.

a. $0.35 = \frac{35}{100}$

b. $10.09 = \frac{1009}{100} = 10 \frac{9}{100}$

c. $0.6 = \frac{6}{10}$

d. $0.93 = \frac{93}{100}$

e. $0.003 = \frac{3}{1000}$

f. $20.105 = \frac{20105}{1000} = 20 \frac{105}{1000}$

5. ADD OR SUBTRACT:

a. $24.09 + 10.13$ b. $35.06 - 8.79$ c. $416.45 + 2.08$

SOLUTION: SOLUTION: SOLUTION:

a. 24.09

+ 10.13 b. 35.06

- 8.79 c. 416.45

+ 2.08

34.22 26.30 418.53

d. $19.165 - 9.786$ e. $1.09 + 0.999$ f. $5.031 - 2.875$

SOLUTION: SOLUTION: SOLUTION:

d. 19.165

- 9.786 e. 1.09

+ 0.999 f. 5.031

- 2.875

8.379 2.089 2.156

6. WRITE CORRECT DECIMAL NUMBERS FOR *

a. 5946 p = Rs *

b. 4 mm = * m

c. 8cm - *m

d. 15 gm = * kg

e. 102 m - * km

f. 24 p = Rs*

g. 161 - *ml

h. 129g - *kg

i. 890p = Rs*

j. 13ml = *l

ANSWERS:

- a. Rs 59.46
- b. 0.004 m
- c. 0.08 m
- d. 0.015 kg
- e. 0.102 km
- f. Rs 0.24
- g. 16000 mI
- h. 0.129 kg
- i. Rs 8.9
- j. 0.013 I

7. MULTIPLY OR DIVIDE.

a. Rs49.75 X I2

SOLUTION: b. 4.968 km ÷ 8

SOLUTION: c. 0.773 g x 15

SOLUTION: d. 46.231 l x 5

SOLUTION:

49.75

X 12 4.968 km ÷ 8 0.773

x 18 16.231 L

x 5

9950

49750

8 0621 6184

7730 81.155 L

597.00

4.968

48

16

16

8

8 13.914 g

e 14.697 kl ÷ 9

SOLUTION: f. 2.076 kg ÷ 6

SOLUTION: g. 1.013 kg x I0

SOLUTION: h. 2.6 cm X 100

SOLUTION:

9

1.633

6

0.346 1.013 kg

x 10 2.6 cm

X 100

14.697

9 2.076

18 10.13 260.0

56

54 27

24

29

27 36

36

27

27

P:121 LOOKING AT LINES

P:122 THINKING ABOUT TURNING

P:123 MAKING ANGLES

1- Cut two strips of card and fasten them with a paper fastener or paper clip at one end. You can colour them differently.

1. Turn one of the strips to make a right angle:

A right angle

2. Now make an angle smaller than a right angle by turning your strip back a little. You have now made an acute angle:

An acute angle

3. Now turn your strip beyond a right angle but not as far as a straight angle. This is called an obtuse angle:

An obtuse angle

4. Lastly, turn your strip even further, beyond a straight angle. You have made a reflex angle:

A reflex angle

Q 2. Look carefully at these angles. Then copy them in your notebook & name them.

Answer: (a- Acute)(b-right)(c- right)(d- straight)(e-reflex)(f-obtuse) (g-acute)(h-reflex)

P:124 MORE ABOUT ANGLES: THE(\angle) SYMBOL

3. NAME THE ARMS OF THESE ANGLES.

Answer: (a-AB and BC)(b-WX and XY)

4. NAME THE VERTEX OF THESE ANGLES.

Answer: (a-L)(b- T)

5. Draw any angle, and label it as shown.

\angle PQR (vertex Q)

a. \angle EFG (vertex F)

b. \angle JKL (vertex K)

c. \angle STU (vertex T)

d. \angle MNO (vertex N)

6. NOW DRAW ANGLES TO THE NAMES.

\angle XYZ (right angle)

a. \angle PQR (acute angle)

b. \angle ABC (reflex angle)

c. \angle DEF (obtuse angle)

d. \angle WXY (right angle)

e. LRST (reflex angle)

f. LLMN (right angle)

match

P:125 FINDING THE RIGHT ANGLE!

I. Look at the angles, second tick () all those that are right angles

Answer: (a- right)(b-x)(c- right)(d-x)

2. Look around your classroom. How many right angles can you spot? Look at this book! Look at your desk! There are right angles all around us.

In your notebook, make a list on this pattern:

Object Location of right angle

Window

Tree Angle made by 2 sides

Angle between tree
trunk second ground

How many examples can you locate? Make sure you locate more than your neighbour does!

3. Look around your home second your school. Make a list of acute angles and obtuse angles.

Object Type of angle

Back of chair

and its seat obtuse angle

P:126 ANGLES , DEGREES AND PROTRACTOR

I. Draw a base line 6 cm long and label it AB. Now place your-protractor so that the middle of its bottom line is exactly on A .

Find the '90' mark on the protractor and mark it 'C'. Remove the protractor. Join C to A. What angle have you drawn?

P:127 ANGLES , DEGREES AND PROTRACTOR

2. LOOK CAREFULLY AT THE CIRCULAR PROTRACTOR ABOVE. THEN ANSWERS: THESE QUESTIONS.

How many degrees in half a circle? $360^\circ \div 2 = 180^\circ$

How many degrees in a quarter circle?

How many degrees in a right angle?

How many degrees in $1/10$ a circle?

How many degrees in a straight line?

$1/4$ circle + $1/10$ circle = _____ degrees.

$3/4$ circle = _____ degrees.

2 right angles added together = _____ degrees.

Answer: (a-90o)(b-90o)(c- $1/10=1/10 \times 360=36o$)(d-180o)(e- $1/4$ circle+ $1/10$ circle , $1/4 \times 360= 90+36=126o$)(f- $3/4$ circle = $3/4 \times 360=270o$) (g- $90o+90o=180o$)

P:128 USING THE PROTRACTOR

1. Look at the angle you want to measure:

Is it an acute, obtuse, or a right angle?

Label the angle as ABC.

$\angle ABC =$ acute

2. Place the centre point of your protractor on the vertex of the angle (B).

3. Put the 0 mark along the arm BC.

4. Now look very carefully to see at what number in the 'top row of markings the 'AB' arm of your angle crosses the protractor.

+

Since the 'AB' arm crosses at the number 30, so $\angle ABC = 30^\circ$.

P:129 USING THE PROTRACTOR: ACUTE ANGLE

Use your protractor to measure these angles. Think carefully which row of markings on the protractor you should use.

2. Look cut the protractors and write down the angles they show.

P:130 USING THE PROTRACTOR: OBTUSE ANGLES

3. Measure these obtuse angles, thinking carefully which set of markings to use.

4. Measure the angles shown in the drawing and complete the table.

$$\angle ABC = 45^\circ$$

$$\angle ABD = 60^\circ$$

$$\angle ABE = 90^\circ$$

$$\angle ABF = 120^\circ$$

$$\angle CBE = 45^\circ$$

$$\angle DBF = 60^\circ$$

5. Estimate second then measure each of the following angles.

Then complete the table that follows.

6. Draw more angles in your notebook at random without a protractor second complete a similar table.

P:131 USING THE PROTRACTOR: DRAWING ANGLES

7. Draw these angles in your notebook, using θ protractor (Your angles can open in either direction).

- a. 30°
- b. 65°
- c. 50°
- d. 125°
- e. 70°
- f. 10°
- g. 90°
- h. 75°
- i. 10°
- j. 155°
- k. 45°
- l. 170°
- m. 130°
- n. 105°
- o. 25°
- p. 180°

P:132 MORE ABOUT TRIANGLES

1. Measure the sides of these 4 triangles. Write equilateral, isosceles, or scalene for each one.

isosceles

2. Measure the sides of the triangles given below carefully then record your finding thus:

equilateral isosceles scalene

A

P:133 TRIANGLES & THEIR ANGLES

I. Use a set square second find out which of these are right-angled triangles.

2. In your notebook, draw a table like this. Then put the triangles shown below into the correct column.

P:134

I. Measure the angles of these triangles. Then record your findings on a table like this.

Triangle angle Total of all 3 angles

x y z

A 50° 90° 40° 180°

P:135 ANGLES IN QUADRILATERAL

1. Which shapes shown above have:
4 right angles? square, rectangle

- a. No right angles?
- b. 4 sides of equal length?
- c. Both pairs of opposite sides parallel?
- d. 4 equal sides and 4 right angles?
- e. 4 equal sides but no right angles?

Answers:

Kite, parallelogram trapezium, arrow and rhombus have no right angles.

Square and rhombus have 4 sides of equal lengths.

Square, rectangle, parallelogram and rhombus have both pairs of opposite sides parallel.

Square has 4 equal sides and 4 right angles.

Rhombus

2. Carefully measure the angles of this parallelogram and record

$\angle a = 60$

$\angle b = 120$

$\angle c = 60$

$\angle d = 120$

$\angle a + \angle b + \angle c + \angle d = 360$

P:136

MORE ABOUT QUADRILATERALS

I. Test Sid's Important Rule on page 135 by measuring the

angles of these

quadrilaterals and recording your findings on a table Like this.

quadrilateral Angles $p+q+r+s$

p q r s

A

2. DRAW RECTANGLES WITH SIDES; OF THESE LENGTHS

a. 10.2 cm and 6.3 cm

b. 01.5 cm and 3.7 cm

Calculate the perimeter of each.

3. DRAW SQUARES WITH SIDES THESE LENGTHS.

a. 5.6 cm

b. 3.9 cm

Calculate the perimeter of each.

3. DRAW SQUARES WITH SIDES OF

P:137 PERPENDICULAR LINES

I. ARE THESE LINES PERPENDICULAR TO EACH OTHER? WRITE YES OR NO.

2. LOOK CAREFULLY AROUND YOU. WHAT PAIRS OF PERPENDICULAR LINES CAN YOU SEE? RECORD THEM ON A TABLE LIKE THIS.

Name of object Location of the perpendicular lines

Pencil box 2 sides of the lid

3. DRAW LINES OF THESE LENGTHS PERPENDICULAR TO EACH OTHER.

AB=3cm, CD=2cm

a. PQ=4 cm ST = 8cm

b. XY=cm, UV = 6.3 cm

c. EF =7.4 cm, JK = 4.7 cm

d. LM=cm RS = 4.8

P:138

COLUMN GRAPHS

I. LOOK CAREFULLY AT THIS COLUMN GRAPH.

Favourite Colours of Children in Class 4A

blue red Yellow green pink orange

NOW ANSWERS: THESE QUESTIONS.

- a. How many children like red the best?
- b. Which colour is least liked?
- c. How many children like orange best?
- d. For how many children is blue not the favourite colour?
- e How many children are there in Class AA?
- f How many children like green the most?

Answer: (a-8 children)(b-pink)(c-7 children)(d-27 children)(e-33 children)(f-4 children)

2. HERE IS A COLUMN GRAPH FOR 20 CHILDREN, EACH UNIT OF WHICH STANDS FOR 5 CHILDREN ALONG THE VERTICAL.

Children Absent from School

Mon Tues Wed Thurs Fr1

STUDY THE GRAPH SECOND ANSWERS: THE QUESTIONS.

- a. How many children were absent from school on Friday?
- b. How many more children were absent on Monday than on Wednesday?
- c. How many children were not in school on Tuesday & Wednesday?

Answer: (a-10 children)(b-5 children)(c-25 children)

3. STUDY THE GRAPH & ANSWERS: THE QUESTIONS.

Money Collected for Homeless Families

Mon Tues Wed Thurs Fri Sat

- a. How much money was collected on Wednesday?
- b. How much more money was collected on Friday than on Tuesday?
- c. On which day was the most money collected?

Answer: (a-3000)(b-1500)(c-Wednesday)

P:139 MORE ABOUT COLUMN GRAPHS

These column graphs tell us cx lot about Sid Spacewalker second his family (wife Sara & children Sue, Selvi, & Sprog

1. STUDY THE GRAPHS SECOND ANSWERS: THESE QUESTIONS.

- a. What is the difference in the heights of Sprog second Sara?
- b. How much older is Sue than Selvi?

- c. How much lighter is Sue than Sid?
- d. How old was Sara when Sprog was born?
- e. Which member of the family cannot walk through a 2-m high door without bending?
- f. How many stamps do Sue, Selvi, second Sprog have altogether?
- g. Sid's spaceship can carry not more than 250 kg. Can all five members of the family travel in the ship together?
- h. If Sid gives $\frac{1}{4}$ of his stamp collection to Sprog, how many stamps will Sprog now have?
- i. If Sue second Selvi lie end to end, how for will they stretch?
- j. If Selvi second Sprog climb together onto the scales, what weight will be shown?

Answer: (a- $2-1=1\text{m}$)(b- $14-8=6$ years)(c- 80 kg - 40 kg= 40kg)(d- $26-8=18$ y)(e-Sid)(f- $600+300+100=1000$ stamps) (g-yes)(h- $\frac{1}{4}$ of $600+100=150+100=250$ stamps)(i- $1.5 +1=2.5$) (j- $30+20=50$ kg)

P:140 THE PIE CHART

1. STUDY THE PIE CHART, THEN ANSWERS: THE QUESTIONS.

Colours of Bangles Worn by Teachers at Alamgir School

What colour bangles were worn by most teachers?

What colour bangles were worn by the least number of teachers?

Which colour was worn by more teachers, green or blue?

NOW STUDY THIS CHART.

Favourite Sports of Class AB

Which is the most popular sport among the students of Class 4B?

Which is their least favourite sport?

Which is more popular, football or cricket?

Answer: (a-yellow)(b- blue)(c-green)

P:141-146 REVIEW OF THE YEAR

P: 147-154 WORKSHEETS (1-8)

P:155-159 MATH LAB ACTIVITY (1-5)

THE END

SOLVED MATH-6 CH 3-13

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