

CLASS-5

Review

1. Write in words :

(a) 5021 - Five thousand twenty one
(b) 3259 - Three thousand two hundred fifty nine
(c) 43250 - Forty three thousand two hundred fifty
(d) 712560 - Seven lakh twelve thousand five hundred sixty
(e) 453929 - Four lakh fifty three thousand nine hundred twenty nine.

2. Write in numbers :

(a) 4321 (b) 12229 (c) 715238 (d) 9909990 (e) 1605241

3. Write the place value of underline numbers :

2. 700000 3. 100 4. 10 5. 200000 6. 3000000 7. 20 8. 80000

4. Do yourself

5. $900000 + 30000 + 2000 + 600 + 0 + 6$

6. 5436569

7. Greatest number : 976530

Smallest number : 356790

8. Calculate the following :

$$\begin{array}{r} \text{(a)} \quad 34 \ 83 \ 21 \\ \quad \underline{23 \ 84 \ 35} \\ + \quad \underline{58 \ 67 \ 56} \\ \hline \end{array} \quad \begin{array}{r} \text{(b)} \quad 7 \ 38 \ 32 \\ \quad \underline{27 \ 26 \ 69} \\ + \quad \underline{34 \ 65 \ 01} \\ \hline \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 78 \ 93 \ 21 \\ \quad \underline{20 \ 77 \ 62} \\ + \quad \underline{99 \ 70 \ 83} \\ \hline \end{array} \quad \begin{array}{r} \text{(d)} \quad 63 \ 27 \ 89 \\ \quad \underline{34 \ 48 \ 06} \\ + \quad \underline{97 \ 75 \ 95} \\ \hline \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 62 \ 32 \ 75 \\ \quad \underline{3 \ 13 \ 63} \\ + \quad \underline{2 \ 13 \ 21} \\ \hline \end{array} \quad \begin{array}{r} \text{(f)} \quad 63 \ 27 \ 84 \\ \quad \underline{21 \ 30 \ 26} \\ + \quad \underline{7 \ 30 \ 13} \\ \hline \end{array}$$

$$\begin{array}{r} \text{(g)} \quad 80 \ 03 \ 93 \\ \quad \underline{10 \ 39 \ 07} \\ + \quad \underline{63 \ 23} \\ \hline \end{array} \quad \begin{array}{r} \text{(h)} \quad 3 \ 76 \ 32 \\ \quad \underline{13 \ 35 \ 78} \\ + \quad \underline{34 \ 70 \ 10} \\ \hline \end{array}$$

$$\begin{array}{r} \text{(i)} \quad 35 \ 45 \ 72 \\ \quad \underline{2 \ 54 \ 34} \\ - \quad \underline{32 \ 91 \ 38} \\ \hline \end{array} \quad \begin{array}{r} \text{(j)} \quad 97 \ 42 \ 68 \\ \quad \underline{53 \ 21 \ 45} \\ - \quad \underline{44 \ 21 \ 23} \\ \hline \end{array}$$

$$\begin{array}{r} \text{(k)} \quad 89 \ 76 \ 25 \\ \quad \underline{43 \ 15 \ 69} \\ - \quad \underline{46 \ 60 \ 56} \\ \hline \end{array} \quad \begin{array}{r} \text{(l)} \quad 43 \ 25 \ 31 \\ \quad \underline{28 \ 73 \ 29} \\ - \quad \underline{14 \ 52 \ 02} \\ \hline \end{array}$$

9. Answer according to the given description :

(a) cost of cotton = 1,28,780.00

cost of arhar = 2,32,735.00

Earning of sandeep = 36,15,15

(b) cost of arhar = 2,32,735

cost of soyabean = 3,35,240

cost of almond = 2,32,830

Total amount = 2,32,735 + 3,35,240 + 2,32,830 = 800805

(c) cost of lentil = 48 338

cost of gram = 32 623

Total cost = 48 338

+ 32 623

80 961

(d) cost of walnut = 720102

cost of almond = 232830

Total cost = 720102

+ 232830

952932

10. Multiply :

$$\begin{array}{r} \text{(a)} \quad 2 \ 0 \ 2 \\ \quad \times \ 4 \\ \hline 8 \ 0 \ 8 \end{array} \quad \begin{array}{r} \text{(b)} \quad 4 \ 4 \ 3 \\ \quad \times \ 3 \\ \hline 13 \ 2 \ 9 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 8 \ 1 \ 2 \\ \quad \times \ 2 \\ \hline 16 \ 2 \ 4 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 5 \ 4 \ 5 \\ \times 1 \ 2 \\ \hline 1 \ 0 \ 9 \ 0 \\ 5 \ 4 \ 5 \times \\ \hline 6 \ 5 \ 4 \ 0 \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 2 \ 6 \ 7 \\ \times 1 \ 4 \\ \hline 1 \ 0 \ 6 \ 8 \\ 2 \ 6 \ 7 \times \\ \hline 3 \ 7 \ 3 \ 8 \end{array}$$

11. Find the quotient and remainder :

$$\begin{array}{r} \text{(a)} \quad 5 \overline{)9360} (1872 \\ \underline{5} \downarrow \\ 43 \\ \underline{40} \downarrow \\ 36 \\ \underline{35} \downarrow \\ 10 \\ \underline{10} \\ \times \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 7 \overline{)13535} (1933 \\ \underline{7} \downarrow \\ 65 \\ \underline{63} \downarrow \\ 23 \\ \underline{21} \downarrow \\ 25 \\ \underline{21} \\ 4 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 22 \overline{)8793} (399 \\ \underline{66} \downarrow \\ 219 \\ \underline{198} \downarrow \\ 213 \\ \underline{198} \\ 15 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 100 \overline{)5932} (59 \\ \underline{500} \downarrow \\ 932 \\ \underline{900} \\ 32 \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 60 \overline{)8400} (140 \\ \underline{60} \downarrow \\ 240 \\ \underline{240} \downarrow \\ 0 \end{array}$$

$$\begin{array}{r} \text{(f)} \quad 24 \overline{)68436} (2851 \\ \underline{48} \downarrow \\ 204 \\ \underline{192} \downarrow \\ 123 \\ \underline{120} \downarrow \\ 36 \\ \underline{24} \\ 12 \end{array}$$

12. Find all the factors of the following:

(a) $27 = 1, 3, 9, 27$

(b) $36 = 1, 2, 3, 4, 6, 9, 12, 18, 36$

(c) $81 = 1, 3, 9, 27, 81$

(d) $125 = 1, 5, 25, 125$

(e) $216 = 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 54, 72, 108, 216$

13. Find L.C.M of the following :

(a) $4, 22 \Rightarrow 4 = 2 \times 2 \Rightarrow 22 = 2 \times 11$

L.C.M. = $2 \times 2 \times 11 = 44$

(b) $4, 8$ and $18 \Rightarrow 4 = 2 \times 2 \Rightarrow 8 = 2 \times 2 \times 2 \Rightarrow 18 = 2 \times 3 \times 3$

L.C.M. = $2 \times 2 \times 2 \times 3 \times 3 = 72$

(c) $5, 20, 15 \Rightarrow 5 = 5 \Rightarrow 20 = 5 \times 2 \times 2 \Rightarrow 15 = 5 \times 3$

L.C.M. = $5 \times 2 \times 2 \times 3 = 60$

(d) $9, 27, 36 \Rightarrow 9 = 3 \times 3 \Rightarrow 27 = 3 \times 3 \times 3 \Rightarrow 36 = 2 \times 2 \times 3 \times 3$

L.C.M. = $3 \times 3 \times 3 \times 2 \times 2 = 108$

(e) $6, 24, 18 \Rightarrow 6 = 2 \times 3 \Rightarrow 24 = 2 \times 2 \times 2 \times 3 \Rightarrow 18 = 2 \times 3 \times 3$

L.C.M. = $2 \times 2 \times 2 \times 3 \times 3 = 72$

14. Find H.C.F. of the following :

(a) 70 and 110

$70 = 2 \times 5 \times 7$

$110 = 2 \times 5 \times 11$

H.C.F. = $2 \times 5 = 10$

(b) 256 and 144

$256 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$

$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

H.C.F. = $2 \times 2 \times 2 \times 2 = 16$

(c) 50 and 255

$50 = 2 \times 5 \times 5$

$255 = 5 \times 3 \times 17$

H.C.F. = 5

(d) 121 and 663

$121 = 11 \times 11 \times 1$

$663 = 3 \times 13 \times 17 \times 1$

H.C.F. = 1

(e) 250 and 440

$250 = 5 \times 5 \times 5 \times 2$

$440 = 2 \times 2 \times 2 \times 5 \times 11$

H.C.F. = $5 \times 2 = 10$

15. Simplify :

$$\begin{aligned} (a) 15+32 \div 16 \times 20 &\Rightarrow 15+2 \times 20 \Rightarrow 15+40 \Rightarrow 55 \\ (b) 107-125 \div 25+39 &\Rightarrow 107-5+39 \Rightarrow 107-44 \Rightarrow 63 \\ (c) 49 \div 7 \times 21-18 &\Rightarrow 7 \times 21-18 \Rightarrow 147-18 \Rightarrow 129 \\ (d) 18 \times 5 \div 15-6 &\Rightarrow 18 \times \frac{5}{15}-6 \Rightarrow 18 \times \frac{1}{3}-6 \Rightarrow \frac{18}{3}-6 \Rightarrow 6-6=0 \\ (e) 4 \times 90 \div 10+6-9 &\Rightarrow 4 \times 9+6-9 \Rightarrow 36+6-9 \Rightarrow 42-9 \Rightarrow 33 \\ (f) 121 \div 11 \times 11+11-11 &\Rightarrow 11 \times 11+11-11 \Rightarrow 121+11-11 \Rightarrow 132-11 \Rightarrow 121 \end{aligned}$$

16. The cost of one metre is = ₹ 12
The cloth will come in ₹ 4320 is = $4320 \div 12$

$$\begin{array}{r} 12 \overline{) 4320} (360 \\ \underline{36} \\ 72 \\ \underline{72} \\ 0 \\ \underline{0} \\ \times \end{array}$$

360 metre cloth
will come

17. The cost of one cycle
= ₹ 1575
Total cost of 83 cycles
= 1575×83

$$\begin{array}{r} \textcircled{4} \textcircled{6} \textcircled{4} \\ \textcircled{1} \textcircled{2} \textcircled{1} \\ 1575 \\ \times 83 \\ \hline 4725 \\ 12600 \\ \hline 130725 \end{array}$$

18. The annual salary of akshay's = ₹ 99,000
His monthly income = $99,000 \div 12$

$$\begin{array}{r} 30 \overline{) 99000} (3300 \\ \underline{90} \\ 90 \\ \underline{90} \\ 0 \\ \underline{0} \\ 0 \\ \underline{0} \\ \times \end{array}$$

monthly income = ₹ 3300

19. Families live in a village = 1,200
Each family give for the progress
of village = ₹ 50

Total money collect by villages = $1200 \times 50 = 60,000$

Money spent = ₹ 48,335

Remaining money = $60,000 - 48,335 = ₹ 11,665$

20. A box has packets of toffees = 50
Packets will come in 1035 box
= $1035 \div 50$

$$\begin{array}{r} 50 \overline{) 1035} (20.7 \\ \underline{100} \\ 350 \\ \underline{350} \\ \times \end{array}$$

21. $10000 - 9989 \Rightarrow$

$$\begin{array}{r} 10000 \\ - 9989 \\ \hline 0011 \end{array}$$

22. The cost of one match box = ₹ 6

The cost of 26 match boxes = 26×6

$$\begin{array}{r} 26 \\ \times 6 \\ \hline 156 \end{array}$$

23. The cost of 1 pen = 5

The cost of 3555 pen = 3555×5

$$\begin{array}{r} 3555 \\ \times 5 \\ \hline 17775 \end{array}$$

24. Do yourself

25. Length = 5cm

Breadth = 7cm

Area of rectangle = $5 \times 7 = 35$ cm

26. Radius of a circle = $\frac{\text{Diameter}}{2}$

$$\Rightarrow \frac{12}{2} = 6 \text{ cm.}$$

27. Do yourself

28. (a) Perimeter (of triangle) = sum
of all sides

$$= 5+6+7 = 18 \text{ cm}$$

(b) Perimetre of rectangle = $2(l+b)$

$$\Rightarrow 2 \times (4+3)$$

$$\Rightarrow 2 \times 7 = 14 \text{ cm}$$

(c) Perimeter of pentagon = sum of all sides
 $3 + 3 + 5 + 4 + 5 = 20 \text{ cm}$

Exercise- 2.1

1. **Write the next five numbers for each of the following numbers :**
 - (a) 931584, 931585, 931586, 931587, 931588
 - (b) 2341516, 2341517, 2341518, 2341519, 2341520
 - (c) 34254126, 34254127, 34254128, 34254129, 34254130
 - (d) 912693417, 912693418, 912693419, 912693420, 912693421
 - (e) 84612643, 84612644, 84612645, 84612646, 84612647
 - (f) 72658618, 72658619, 72658620, 72658621, 72658622
2. **Observe the pattern carefully and write the next three numbers :**
 - (a) 8315867, 8315868, 8315869
 - (b) 5896884, 5896894, 5896904
 - (c) 56919272, 56919372, 56919472
 - (d) 124659786, 124660786, 124661786
3. **Counting by 5's write the numbers between :**
 - (a) 33142650, 33142655, 33142660, 33142665
 - (b) 56876359, 56876364, 56876369
 - (c) 437102474, 437102479, 437102484
 - (d) 747635872, 747635877, 747635882
4. **Counting by 10's write the next three numbers :**
 - (a) 26548702, 26548712, 26548722
 - (b) 95652873, 95652883, 95652893
 - (c) 62547252, 62547262, 62547272
5. **Counting by 1000's write the next three numbers :**
 - (a) 2897427, 2898427, 2899427
 - (b) 42696842, 42697842, 42698842
 - (c) 765433198, 765434198, 765435198
6. **Write the smallest and greatest number of :**
 - (a) 5 digit smallest = 10000
5 digit Largest = 99999
 - (b) 6 digit smallest = 100000
6 digit Largest = 999999
 - (c) 7 digit smallest = 1000000
7 digit Largest = 9999999
 - (d) 8 digit smallest = 10000000
8 digit Largest = 99999999
 - (e) 9 digit smallest = 100000000
9 digit Largest = 999999999
 - (f) 4 digit smallest = 1000
4 digit Largest = 9999
7. **Write the place values of the encircled digits :**
 - (a) 600000 (b) 5000 (c) 1000000
 - (d) 90000 (e) 500 (f) 7000000 (g) 8000000 (h) 100000000 (i) 30000
8. 9 digit greatest Number = 999999999
 successor = 1000000000
9. **Find :**

(a) 300000	Three Lakhs
(b) 20000000	Two crores
(c) 900000000	Ninety crores
(d) 100000	One Lakh
(e) 500	Five hundred
10. **Write the following numbers in figures :**
 - (a) 5,10,70,010 (b) 12,65,07,205
 - (c) 9,20,16,090 (d) 90,06,07,004
 - (e) 87,00,000 (f) 63,71,304
 - (g) 60,40,005 (h) 3,10,05,007
 - (i) 8,00,10,007 (j) 16,00,02,700
 - (k) 2,00,03,007 (l) 55,66,00,043
11. **Put commas in the proper place to show the Indian periods. Also write them in words :**
 - (a) Seventy two lakh, thirty five thousand seventy
 - (b) fifty six lakh, seventy eight thousand, nine hundred seven.
 - (c) seven crore, twenty lakh, six

hundred seventy eight.

(d) One crore, three lakh, forty five thousand, one hundred sixty seven.

(e) Seven crore, thirty five lakh, sixty seven thousand, eight hundred.

(f) Nine crore, eighty seven lakh, twenty thousand, seventy eight.

(g) Eleven crore, eleven lakh, sixteen thousand, seven hundred, eighty one.

(h) Eighty nine crore, seventy two lakh, seven thousand nineteen

(i) Thirty one crore, twenty five lakh, five hundred nine.

12. Write the following numbers in the Indian place value chart :

(a) 51678920

Crore	T. lakh	lakh	TTh	Th	H	T	O
5	1	6	7	8	9	2	0

(b) 712567089

Ten crore	Crore	T. lakh	lakh	TTh	Th	H	T	O
7	1	2	5	6	7	0	8	9

(c) 200750789

Ten crore	Crore	T. lakh	lakh	TTh	Th	H	T	O
2	0	0	7	5	0	7	8	9

(d) 723005189

Ten crore	Crore	T. lakh	lakh	TTh	Th	H	T	O
7	2	3	0	0	5	1	8	9

13. Write the numbers in figures :

(a) 2,408,265 (b) 5,724,508

(c) 46,000,044 (d) 17,000,044

(e) 82,000,290 (f) 901,040,007

(g) 505,0000212 (h) 703,050407

14. Place the periods in right place to show the number in International place value chart :

(a) 72,567,894 (b) 56,721,328

(c) 5,934,125 (d) 56,321,573

(e) 925,314,789 (f) 2,414,531

(g) 310,053,001 (h) 9,543,210

15. Write in words :

(a) Five hundred eighty-seven million three hundred twenty one thousand two hundred one.

(b) Two hundred forty one million five hundred thirty two thousand one hundred fifty six.

(c) Two million five hundred seven thousand nine hundred eight.

(d) Five hundred sixty seven million seven hundred thousand three hundred twenty.

(e) Seven hundred seven million five hundred thousand three hundred twenty one.

(f) Three hundred twenty one million five hundred sixty-seven thousand two.

16. Write the place value of encircled digits :

(a) 5000 (b) 1 (c) 70000000

(d) 20000 (e) 9000000

(f) 100000000

Exercise- 2.2

1. Write the following numbers in expanded form :

(a) 2,86,43,265 = 2 Crores + 8 tens lakhs + 6 lakhs + 4 ten thousand + 3 thousands + 2 hundred + 6 tens + 5 ones

(b) 42,65,79,235 4 ten crores + 2 crores + 6 ten lakhs + 5 lakhs + 7 ten thousand + 9 thousand + 2 hundreds + 3 tens + 5 ones

(c) 72,65,94,321 7 ten crores + 2 crores + 6 ten lakhs + 5 lakhs + 9 ten thousands + 4 thousands + 3 hundred + 2 tens + 1 ones

(d) 21,34,56,986 2 ten crores + 1 crore + 3 ten lakhs + 4 lakhs + 5 tens thousands + 6 thousands + 9 hundreds + 8 tens + 6 ones

- (e) 58,96,42,362 5 ten crores + 8 crores + 9 ten lakhs + 6 lakhs + 4 ten thousand + 2 thousand + 3 hundreds + 6 tens + 2 ones
 (f) 94,64,31,249 ten crores + 4 crores + 6 ten lakhs + 4 lakhs + 3 ten thousand + 1 thousand + 2 hundred + 4 tens + 9 ones
- Write the following numbers in short form :**
 (a) 53,42,69,942 (b) 79,56,26,902
 - How many digits are there in each of the following :**
 (a) 7 digits (b) 8 digits (c) 9 digits
 - Write the following numbers in expanded form as shown :**
 (a) $56,78,932 = 5000000 + 600000 + 70000 + 8000 + 900 + 30 + 2$
 (b) $1,86,57,243 = 10000000 + 8000000 + 600000 + 50000 + 7000 + 200 + 40 + 3$
 (c) $5,78,24,351 = 50000000 + 7000000 + 800000 + 20000 + 4000 + 300 + 50 + 1$
 (d) $53,47,38,541 = 500000000 + 30000000 + 4000000 + 700000 + 30000 + 8000 + 500 + 40 + 1$
 (e) $48,97,32,521 = 400000000 + 80000000 + 9000000 + 700000 + 30000 + 2000 + 500 + 20 + 1$
 (f) $99,38,47,532 = 900000000 + 90000000 + 3000000 + 800000 + 40000 + 7000 + 500 + 30 + 2$
 (g) $11,44,33,555 = 100000000 + 10000000 + 4000000 + 400000 + 30000 + 3000 + 500 + 50 + 5$
 (h) $56,09,40,808 = 500000000 + 60000000 + 900000 + 40000 + 800 + 8$
 - Write the following numbers in short form :**
 (a) 7543218 (b) 24387919
 (c) 97043218 (d) 740234
 (e) 87438421 (f) 41003219
 (g) 3104211
- Exercise- 2.3**
- Arrange the following numbers in ascending order :**
 (a) 2356317, 3147327, 3148732, 5321981 (b) 3251, 43213, 43216, 73215, 7934517 (c) 5342, 435781, 914321, 934156 (d) 93425, 325163, 677751, 677782
 (e) 56732, 9235832, 92356712, 92357618 (f) 965256, 34725018, 34725112, 34725118
 (g) 9234, 34125, 114721, 114723
 - Arrange the following numbers in descending order :**
 (a) 347312, 347212, 347118, 347018 (b) 573259049, 573258048, 573258018 (c) 923257090, 93247089, 92347089 (d) 9234182, 9234181, 9234071
 - By comparing the following numbers fill in the blanks using <, > or = :**
 (a) 80800808 > 80800807
 (b) 5132408 > 5132400
 (c) 93425178 > 93424952
 (d) 567209451 > 567208451
 (e) 56990909 < 569998889
 (f) 72415008 > 7244009
 (g) 1007230 < 1007330
 (h) 9900900 > 990090
 (i) 243508 = 243508
 - Write the smallest and greatest numbers using each of the following digits only once :**
 (a) 1,0,5,7,2 smallest = 10257
 Greatest = 75210
 (b) 0,5,4,6,3,2 smallest = 203456
 Greatest = 654320
 (c) 0,4,5,6,7 smallest = 40567
 Greatest = 76540
 (d) 2,0,3,5,6,8 smallest = 203568
 Greatest = 865320
 (e) 5,6,8,0,2,7 smallest = 205678
 Greatest = 876520

(f) 8,9,3,0,5,7,1,2 smallest =
10235789 Greatest = 98753210
(g) 1,7,9,0,3,2,4,5,6 smallest =
102345679 Greatest = 976543210

5. Smallest number = 100234589
Greatest number = 985432100
6. Smallest number = 20005789
Greatest number = 98752000

Multiple Choice Questions

1. (d) 300 2. (a) > 3. (b) 429138764
4. (c) 5. (b)

Exercise- 3.1

- Do yourself
- Tick (✓) the numbers which are divisible by 2 :
(a) 92642 (✓)
(d) 129468 (✓)
(e) 525472 (✓)
- Tick (✓) the numbers which are divisible by 6 :
(b) 96342 (✓)
(f) 735438 (✓)
- Tick (✓) the numbers which are divisible by 11 :
(a) 4686 (✓) (b) 51678 (✓)
(c) 7264532 (✓) (d) 568458 (✓)
(e) 6253038 (✓) (f) 426954 (✓)
- Tick (✓) the numbers which are divisible by 12 :
(a) 20736 (✓) (c) 2985984 (✓)
(d) 1728 (✓) (f) 248832 (✓)
- Tick (✓) the numbers which are divisible by 15 :
(a) 3375 (✓)
(d) 50625 (✓)
(e) 759375 (✓)
(f) 11390625 (✓)
- Tick (✓) the numbers which are divisible by 25 :
(c) 7269600 (✓)
(d) 42658575 (✓)
(e) 9234925 (✓)
- Tick (✓) the numbers which are divisible by 10 :

(b) 420000 (✓)
(c) 4260060 (✓)
(d) 242920 (✓)
(f) 7265260 (✓)

9. Write any three four-digit numbers which are :

(a) divisible by 4 = 1244, 1248, 1252 (b) divisible by 9 = 1818, 1827, 1836 (c) divisible by 11 = 4686, 4697, 4719 (d) divisible by 15 = 3375, 3390, 3750
(e) divisible by 8 = 3728, 4528, 4984 (f) divisible by 25 = 5900, 3400, 3650

Exercise 3.2

1. What should be added to the following numbers to make them exactly divisible by the numbers as shown against them?

(a)
$$\begin{array}{r} 2 \overline{)429861} \quad 214930 \\ \underline{4} \\ 2 \\ \underline{2} \\ 9 \\ \underline{8} \\ 18 \\ \underline{18} \\ 6 \\ \underline{6} \\ 1 \end{array}$$

1 should be added.

(b)
$$\begin{array}{r} 11 \overline{)42687} \quad 3880 \\ \underline{33} \\ 96 \\ \underline{88} \\ 88 \\ \underline{88} \\ 7 \end{array}$$

(Divisor) - (Remainder) $11 - 7 = 4$

$$(c) 17 \overline{)10679} \text{ (628)}$$

$$\begin{array}{r} 102 \\ \underline{47} \\ 34 \\ \underline{139} \\ 136 \\ \underline{\text{₹ } 3} \end{array}$$

$$(\text{Divisor}) - (\text{Remainder}) = 17 - 3 = 14$$

$$(d) 8 \overline{)42527} \text{ (5315)}$$

$$\begin{array}{r} 40 \\ \underline{25} \\ 24 \\ \underline{12} \\ 8 \\ \underline{47} \\ 40 \\ \underline{\text{₹ } 7} \end{array}$$

$$(\text{Divisor}) - (\text{Remainder}) = 8 - 7 = 1$$

$$(e) 6 \overline{)9265863} \text{ (1544310)}$$

$$\begin{array}{r} 6 \\ \underline{32} \\ 30 \\ \underline{26} \\ 24 \\ \underline{25} \\ 24 \\ \underline{18} \\ 18 \\ \underline{6} \\ 6 \\ \underline{3} \end{array}$$

$$\begin{array}{l} (\text{Divisor}) - \\ (\text{Remainder}) \\ = 6 - 3 = 3 \end{array}$$

$$(f) 25 \overline{)4297256} \text{ (171890)}$$

$$\begin{array}{r} 25 \\ \underline{179} \\ 175 \\ \underline{47} \\ 25 \\ \underline{222} \\ 200 \\ \underline{225} \\ 225 \\ \underline{6} \end{array}$$

$$\begin{array}{l} (\text{Divisor}) - \\ (\text{Remainder}) \\ = 25 - 6 = 19 \end{array}$$

2. What should be subtracted from the following numbers as to make the exactly divisible by the numbers as shown against them?

(a)

(b)

$$9 \overline{)13786} \text{ (1531)}$$

$$\begin{array}{r} 9 \\ \underline{47} \\ 45 \\ \underline{28} \\ 27 \\ \underline{16} \\ 9 \\ \underline{7} \end{array}$$

$$13 \overline{)55449} \text{ (4265)}$$

$$\begin{array}{r} 52 \\ \underline{34} \\ 26 \\ \underline{84} \\ 78 \\ \underline{69} \\ 65 \\ \underline{4} \end{array}$$

(c)

(d)

$$15 \overline{)9787} \text{ (652)}$$

$$\begin{array}{r} 90 \\ \underline{78} \\ 75 \\ \underline{37} \\ 30 \\ \underline{7} \end{array}$$

$$21 \overline{)205386} \text{ (9780)}$$

$$\begin{array}{r} 189 \\ \underline{163} \\ 147 \\ \underline{168} \\ 168 \\ \underline{6} \end{array}$$

(e)

(f)

$$7 \overline{)30076} \text{ (4296)}$$

$$\begin{array}{r} 28 \\ \underline{20} \\ 14 \\ \underline{67} \\ 63 \\ \underline{46} \\ 42 \\ \underline{4} \end{array}$$

$$5 \overline{)42956} \text{ (8591)}$$

$$\begin{array}{r} 40 \\ \underline{29} \\ 25 \\ \underline{45} \\ 45 \\ \underline{6} \\ 5 \\ \underline{1} \end{array}$$

3. Write the greatest four-digit numbers which are exactly divisible by :

(a) 9996 (b) 9996 (c) 9999 (d) 9999

(e) 9996 (f) 9996 (g) 9992 (h) 9996

(i) 9990 (j) 9998 (k) 9996 (l) 9997

Multiple Choice Question

1. (a) 2. (b) 3. (c) 4. (a) 5. (b)

Exercise- 4.1

1. Find the sum of the following :

$$\begin{array}{r} \text{(a)} \quad 3240418 \\ \quad 4251681 \\ + 54321078 \\ \hline 61813177 \end{array} \quad \begin{array}{r} \text{(b)} \quad 10052056 \\ \quad 32514 \\ + 90500498 \\ \hline 100585068 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 567893281 \\ \quad 45632145 \\ + 504015419 \\ \hline 1117540845 \end{array} \quad \begin{array}{r} \text{(d)} \quad 73421 \\ \quad 893012512 \\ + 32145612 \\ \hline 925231545 \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 32145072 \\ \quad 425603219 \\ + 456789212 \\ \hline 914537503 \end{array} \quad \begin{array}{r} \text{(f)} \quad 24051 \\ \quad 32501451 \\ + 425100089 \\ \hline 457625591 \end{array}$$

$$\begin{array}{r} \text{(g)} \quad 432150892 \\ \quad 425091 \\ + 5231407 \\ \hline 437807390 \end{array}$$

2. Add the following numbers :

$$\text{(a)} 1234567 \quad \text{(b)} 111010095$$

3. Replace each by correct digit in each of the following :

$$\begin{array}{r} \text{(a)} \quad 3 \quad 3 \quad 4 \quad \boxed{3} \quad 3 \\ + 1 \quad \boxed{2} \quad 3 \quad 2 \quad 5 \\ + 4 \quad 3 \quad \boxed{2} \quad 4 \quad 5 \\ \hline \boxed{8} \quad 9 \quad 0 \quad 0 \quad \boxed{3} \end{array} \quad \begin{array}{r} \text{(b)} \quad 4 \quad 4 \quad \boxed{0} \quad 5 \quad 1 \\ + 6 \quad 5 \quad 4 \quad \boxed{3} \quad 3 \\ + 6 \quad \boxed{5} \quad 5 \quad 6 \quad 7 \\ \hline \boxed{1} \quad 7 \quad 5 \quad 0 \quad 5 \quad \boxed{1} \end{array}$$

Exercise- 4.2

$$\begin{array}{r} 1 \quad 2 \quad 2 \quad 1 \quad 2 \quad 2 \quad 1 \\ 4 \quad 3 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 8 \\ 9 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 2 \\ + 3 \quad 4 \quad 7 \quad 8 \quad 9 \quad 2 \quad 4 \quad 5 \quad 1 \\ \hline 4 \quad 8 \quad 6 \quad 0 \quad 2 \quad 8 \quad 2 \quad 4 \quad 1 \end{array} \quad \begin{array}{l} = \text{Total} \\ \text{Population} \end{array}$$

$$\begin{array}{r} 1 \quad 1 \\ 9 \quad 5 \quad 4 \quad 3 \quad 2 \quad 1 \quad 5 \quad 0 \\ 4 \quad 5 \quad 6 \quad 7 \quad 2 \quad 1 \quad 3 \quad 0 \\ + 5 \quad 9 \quad 4 \quad 2 \quad 0 \quad 5 \\ \hline 1 \quad 4 \quad 1 \quad 6 \quad 9 \quad 8 \quad 4 \quad 8 \quad 5 \end{array} \quad \begin{array}{l} = \text{Total no} \\ \text{of items} \end{array}$$

$$\begin{array}{r} 1 \quad 1 \quad 2 \quad 1 \quad 1 \quad 1 \\ 9 \quad 5 \quad 6 \quad 7 \quad 8 \quad 5 \quad 5 \quad 3 \quad (2001) \\ 1 \quad 0 \quad 2 \quad 0 \quad 9 \quad 0 \quad 0 \quad 5 \quad 1 \quad (2002) \\ + 2 \quad 4 \quad 5 \quad 3 \quad 4 \quad 0 \quad 0 \quad 8 \quad (2003) \\ \hline 2 \quad 2 \quad 2 \quad 3 \quad 0 \quad 2 \quad 6 \quad 1 \quad 2 \quad = \text{Total} \end{array}$$

$$\begin{array}{r} 4. \quad \text{Smallest 8 digit number} = 10000000 \\ \text{largest 9 digit number} = + 999999999 \\ \hline 1009999999 \end{array}$$

$$\begin{array}{r} 1 \quad 2 \quad 2 \quad 2 \quad 1 \\ 5 \quad 4 \quad 3 \quad 2 \quad 5 \quad 6 \quad 1 \quad \text{First division} \\ 5 \quad 4 \quad 3 \quad 2 \quad 6 \quad 1 \quad \text{Second division} \\ + 1 \quad 2 \quad 5 \quad 6 \quad 7 \quad 8 \quad 7 \quad \text{Third division} \\ + 2 \quad 4 \quad 9 \quad 8 \quad 6 \quad 4 \quad \text{Failed} \\ \hline 7 \quad 4 \quad 8 \quad 2 \quad 4 \quad 7 \quad 3 \quad = \text{Total students} \\ \text{appeared in exam} \end{array}$$

$$\begin{array}{r} 6. \quad \text{The smaller number is} = 5670898 \\ \text{Difference of two number} \\ \quad \quad \quad = 245678 \\ \text{Other number is} = 5670898 \\ \quad \quad \quad + 245678 \\ \quad \quad \quad = 59,16,576 \end{array}$$

$$\begin{array}{r} 7. \quad 6732251 \\ + 4658932 \\ + 5062316 \\ \hline 16453499 \end{array} \quad \begin{array}{r} 8. \quad 5678920 \\ + 3246215 \\ + 850408 \\ \hline 9775543 \end{array}$$

$$\begin{array}{r} \text{Total population} = 16453499 \\ \text{Total votes} = 9775543 \end{array}$$

Exercise- 4.3

1. Subtract the following :

$$\begin{array}{r} \text{(a)} \quad 9 \quad 4 \quad 3 \quad 2 \quad 0 \quad 5 \quad 1 \\ - 3 \quad 4 \quad 5 \quad 8 \quad 0 \quad 2 \quad 1 \\ \hline 5 \quad 9 \quad 7 \quad 4 \quad 0 \quad 3 \quad 0 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 5 \quad 1 \quad 3 \quad 2 \quad 0 \quad 9 \quad 0 \quad 8 \\ - 4 \quad 3 \quad 2 \quad 1 \quad 4 \quad 8 \quad 9 \quad 0 \\ \hline 8 \quad 1 \quad 0 \quad 6 \quad 0 \quad 1 \quad 8 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 4 \quad 0 \quad 8 \quad 9 \quad 2 \quad 4 \quad 0 \quad 8 \\ - 3 \quad 2 \quad 5 \quad 6 \quad 1 \quad 2 \quad 5 \quad 0 \\ \hline 8 \quad 3 \quad 3 \quad 1 \quad 1 \quad 5 \quad 8 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 2 \quad 4 \quad 5 \quad 6 \quad 0 \quad 9 \quad 0 \quad 8 \quad 2 \\ - 1 \quad 0 \quad 5 \quad 8 \quad 9 \quad 2 \quad 4 \quad 1 \quad 0 \\ \hline 1 \quad 3 \quad 9 \quad 7 \quad 1 \quad 6 \quad 6 \quad 7 \quad 2 \end{array}$$

2. Find the differences between :

$$\begin{array}{r} \text{(a)} \quad 25892567 \\ - 12567891 \\ \hline 13324678 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 40892516 \\ - 32408234 \\ \hline 8484282 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 325692421 \\ - 204089240 \\ \hline 121603181 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 986720949 \\ - 304561729 \\ \hline 682159220 \end{array}$$

3. Replace each * by the correct digit in each of the following :

$$\begin{array}{r} \text{(a)} \quad 65463 \\ - 29527 \\ \hline 35936 \end{array} \quad \begin{array}{r} \text{(b)} \quad 80530 \\ - 45006 \\ \hline 35524 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 755638 \\ - 322659 \\ \hline 432979 \end{array}$$

Exercise 4.4

$$\begin{array}{r} 1. \quad 97254208 \\ - 2456789 \\ \hline 94797419 \end{array}$$

$$\begin{array}{l} 2. \text{ Population of a city} = 40589789 \\ \text{Female member} = 20423419 \\ \text{Male member} = 40589789 \\ - 20423419 \\ \hline = 20166370 \end{array}$$

$$\begin{array}{r} 3. \quad 94325608 \\ - 48932508 \\ \hline 45393100 \end{array} = \text{Fifth number}$$

$$\begin{array}{r} 4. \quad 34567892 \\ - 24325168 \\ \hline 10242724 \end{array}$$

$$\begin{array}{r} 5. \quad 92478526 \\ - 54326789 \\ \hline 38151737 \end{array}$$

$$\begin{array}{r} 6. \quad 16489320 \\ - 9990967 \\ \hline 6498353 \end{array} \text{ Should be added}$$

$$\begin{array}{r} 7. \quad 99999 \\ - 9999 \\ \hline 90000 \end{array} = \text{Difference}$$

$$\begin{array}{r} 8. \quad 100000 \\ - 10000 \\ \hline 90000 \end{array} = \text{Difference}$$

$$\begin{array}{r} 9. \quad 2300 = \text{Total students} \\ - 298 = \text{Absent} \\ \hline 2002 \text{ Students were present} \end{array}$$

Exercise- 4.5

1. Find the product :

$$\begin{array}{r} \text{(a)} \quad 54702 \\ \times 843 \\ \hline 164106 \\ 218808 \times \\ 437616 \times \times \\ \hline 46113786 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 87054 \\ \times 8889 \\ \hline 783486 \\ 696432 \times \\ 696432 \times \times \times \\ \hline 773823006 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 604087 \\ \times 5431 \\ \hline 604087 \\ 1812261 \times \\ 2416348 \times \times \\ 3020435 \times \times \times \\ \hline 3280796497 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 54567 \\ \times 4321 \\ \hline 54567 \\ 109134 \times \\ 163701 \times \times \\ 218268 \times \times \times \\ \hline 235784007 \end{array}$$

$$\begin{array}{r}
 \text{(e)} \quad \begin{array}{r} 4\ 3\ 2\ 0\ 1 \\ \times 6\ 2\ 4\ 1 \\ \hline 4\ 3\ 2\ 0\ 1 \\ 1\ 7\ 2\ 8\ 0\ 4\ \times \\ 8\ 6\ 4\ 0\ 2\ \times \times \\ 2\ 5\ 9\ 2\ 0\ 6\ \times \times \times \\ \hline 2\ 6\ 9\ 6\ 1\ 7\ 4\ 4\ 1 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad \begin{array}{r} 9\ 4\ 5\ 6\ 7 \\ \times 3\ 2\ 1\ 5 \\ \hline 4\ 7\ 2\ 8\ 3\ 5 \\ 9\ 4\ 5\ 6\ 7\ \times \\ 1\ 8\ 9\ 1\ 3\ 4\ \times \times \\ 2\ 8\ 3\ 7\ 0\ 1\ \times \times \times \\ \hline 3\ 0\ 4\ 0\ 3\ 2\ 9\ 0\ 5 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(g)} \quad \begin{array}{r} 4\ 5\ 6\ 3\ 2 \\ \times 5\ 4\ 1\ 2 \\ \hline 9\ 2\ 1\ 6\ 4 \\ 4\ 5\ 6\ 3\ 2\ \times \\ 1\ 8\ 2\ 5\ 2\ 8\ \times \times \\ 2\ 2\ 8\ 6\ 6\ 0\ \times \times \times \\ \hline 2\ 4\ 6\ 9\ 6\ 0\ 3\ 8\ 4 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(h)} \quad \begin{array}{r} 1\ 9\ 3\ 2\ 4 \\ \times 8\ 9\ 4\ 2 \\ \hline 3\ 8\ 6\ 4\ 8 \\ 7\ 7\ 2\ 9\ 6\ \times \\ 1\ 7\ 3\ 9\ 1\ 6\ \times \times \\ 1\ 5\ 4\ 5\ 9\ 2\ \times \times \times \\ \hline 1\ 7\ 2\ 7\ 9\ 5\ 2\ 0\ 8 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(i)} \quad \begin{array}{r} 4\ 0\ 5\ 8\ 2 \\ \times 4\ 3\ 4\ 1 \\ \hline 4\ 0\ 5\ 8\ 2 \\ 1\ 6\ 2\ 3\ 2\ 8\ \times \\ 1\ 2\ 1\ 7\ 4\ 6\ \times \times \\ 1\ 6\ 2\ 3\ 2\ 8\ \times \times \times \\ \hline 1\ 7\ 6\ 1\ 6\ 6\ 4\ 6\ 2 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(j)} \quad \begin{array}{r} 5\ 4\ 3\ 2 \\ \times 9\ 6\ 1\ 2 \\ \hline 1\ 0\ 8\ 6\ 4 \\ 5\ 4\ 3\ 2\ \times \\ 3\ 2\ 5\ 9\ 2\ \times \times \\ 4\ 8\ 8\ 8\ 8\ \times \times \times \\ \hline 5\ 2\ 2\ 1\ 2\ 3\ 8\ 4 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(k)} \quad \begin{array}{r} 1\ 1\ 4\ 9\ 8 \\ \times 3\ 2\ 1\ 1 \\ \hline 1\ 1\ 4\ 9\ 8 \\ 1\ 1\ 4\ 9\ 8\ \times \\ 2\ 2\ 9\ 9\ 6\ \times \times \\ 3\ 4\ 4\ 9\ 4\ \times \times \times \\ \hline 3\ 6\ 9\ 2\ 0\ 0\ 7\ 8 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(l)} \quad \begin{array}{r} 4\ 3\ 2\ 1\ 4 \\ \times 3\ 4\ 3\ 2 \\ \hline 8\ 6\ 4\ 2\ 8 \\ 1\ 2\ 9\ 6\ 4\ 2\ \times \\ 1\ 7\ 2\ 8\ 5\ 6\ \times \times \\ 1\ 2\ 9\ 6\ 4\ 2\ \times \times \times \\ \hline 1\ 4\ 8\ 3\ 1\ 0\ 4\ 4\ 8 \end{array}
 \end{array}$$

Exercise- 4.6

- The cost of one coat = 1942.50
The cost of 561 coat is
= 1942.50×561
= ₹ 1089742.5
- The weight of one sugar bag
= 120 kg 200 gm
The weight of 950 bags is
= $120\text{ kg } 200\text{ gm} \times 950$
= 114190 kg
- $\begin{array}{r} 4\ 5\ 6\ 7 \\ \times 6\ 4 \\ \hline 2\ 9\ 2\ 2\ 8\ 8 \end{array}$ 292288 passengers can
travel in 4567 buses
- The sells of dairy in the day = 5432
1 year = 365 days is
Milk supply in 1 year = 5432×365
= 1982680 litre
- Total labourers = 54
The one labourer is paid ₹ = 130
Expenditure of one week
= $130 \times 54 \times 7$
= ₹ 49140
- Distance in one hour is = 65 km
Distance in 650 hours is = 65×650
= 42250 km

7. Production is one day = 5049 bulbs
 The production in month of July
 $= 31 \times 5049$
 $= 156519$ bulbs

Exercise- 4.7

1. Divide :

(a) $227 \overline{) 9075914} (39982$

$$\begin{array}{r}
 681 \downarrow \\
 \underline{2265} \\
 2043 \downarrow \\
 \underline{2229} \\
 2043 \downarrow \\
 \underline{1861} \\
 1816 \downarrow \\
 \underline{454} \\
 454 \\
 \underline{\times}
 \end{array}$$

(b) $125 \overline{) 374500} (2996$

$$\begin{array}{r}
 250 \downarrow \\
 \underline{1245} \\
 1125 \downarrow \\
 \underline{1200} \\
 1125 \downarrow \\
 \underline{750} \\
 750 \\
 \underline{\times}
 \end{array}$$

(c) $579 \overline{) 2170671} (3749$

$$\begin{array}{r}
 1737 \downarrow \\
 \underline{4336} \\
 4053 \downarrow \\
 \underline{2837} \\
 2816 \\
 \underline{5211} \\
 5211 \\
 \underline{\times}
 \end{array}$$

(d) $2545 \overline{) 2733330} (1074$

$$\begin{array}{r}
 2545 \\
 \underline{18833} \\
 17815 \\
 \underline{10180} \\
 10480 \\
 \underline{\times}
 \end{array}$$

2. Find the quotient and remainder :

(a) $\frac{975624}{540} = \text{Quotient} = 1806$
 $\text{Remainder} = 384$

(b) $\frac{975892}{250} = \text{Quotient} = 3903$
 $\text{Remainder} = 142$

(c) $\frac{987240}{320} = \text{Quotient} = 3085$
 $\text{Remainder} = 40$

(d) $\frac{25460}{390} = \text{Quotient} = 65$
 $\text{Remainder} = 110$

(e) $\frac{1256289}{450} = \text{Quotient} = 2791$
 $\text{Remainder} = 339$

(f) $\frac{874325}{940} = \text{Quotient} = 930$
 $\text{Remainder} = 125$

(g) $\frac{7894087}{560} = \text{Quotient} = 14096$
 $\text{Remainder} = 327$

(h) $\frac{978908}{785} = \text{Quotient} = 1247$
 $\text{Remainder} = 13$

3. Divide and check the answer :

(a) $\frac{956400}{25} = 38256$

Checking Answer Divisor $\times$
 Quotient + Remain = Dividend =
 $25 \times 38256 + 0 = 956400$ Ans

(b) $\frac{697800}{12} = 58150$

Checking Answer Divisor $\times$
 Quotient + Remain = Dividend =
 $12 \times 58150 + 0 = 697800$

(c) $\frac{1232800}{46} = 26800$

Checking Answer Divisor $\times$
 Quotient + Remain = Dividend =
 $46 \times 26800 + 0 = 1232800$

Checking Answer Divisor $\times$
Quotient + Remain = Dividend =
 $184 \times 43412 + 0 = 7987808$

Checking Answer Divisor $\times$
Quotient + Remain = Dividend =
 $125 \times 45678 + 0 = 5709750$

Checking Answer Divisor $\times$
Quotient + Remain = Dividend =
 $152 \times 3005474 + 0 = 45687248$

$$(h) \frac{146936160}{452} = 325080$$

Checking Answer Divisor $\times$
Quotient + Remain = Dividend =
 $452 \times 325080 = 146936160$

Checking Answer Divisor $\times$
Quotient + Remain = Dividend =
 $850 \times 3102 + 0 = 2636700$

Checking Answer Divisor $\times$
Quotient + Remain = Dividend
 $952 \times 26718 = 25435536$

1. $29700 \text{ seconds} \Rightarrow \frac{29700}{60} = 495 \text{ min.}$

2. $\frac{24858720}{490} = ₹ 50732.08$ each member get

3. $\frac{6075900}{15} = 405060$ litre milk sold

4. $\frac{\cancel{456000}}{152} \quad 3000$

$$5. \frac{190400}{952} \Rightarrow \text{cost of 1 quintal} = ₹ 200$$

6. $\frac{6840000}{152} \Rightarrow$ cost of one motorcycle ₹ = 45000

7. Greatest no of 8-digits = 99999999
The product is = $9 \times 8 = 72$

$$72 \overline{) 99999999} (1388888$$

$$\begin{array}{r} 72\downarrow \\ \hline 279 \\ 216\downarrow \\ \hline 639 \\ 576\downarrow \\ \hline 639 \\ 576\downarrow \\ \hline 639 \\ 576\downarrow \\ \hline 639 \\ 576\downarrow \\ \hline 63 \end{array}$$

$$\frac{4080}{63} \text{ Remainder} = 63$$

8. The cost of 120 gunny = ₹ 292800

$$\text{The cost of 1 gunny} = \frac{292800}{120} = 2440$$

Each gunny has = 80 kg

$$\text{Cost of 1 kg rice} = \frac{2440}{80} = 30.50$$

$$9. = \frac{589316}{182}$$

Each box contains = 3238 (oranges)

10. $\frac{20919040}{8864}$

Other number = 2360

Exercise- 4.9

1. Simplify:

(a) $8 - 6 \div 2 \times 3 + 7$

$$= 8 - 3 \times 3 + 7$$

$$= 8 - 9 + 7 = -1 + 7 = 6$$

(b) $30 \div 6 + 10 - 2 \times 5$

$$= 5 + 10 - 2 \times 5$$

$$= 5 + 10 - 10$$

$$= 5 + 0 = 5$$

$$(c) 20 + 15 \div 3 \times 2 - 4$$

$$= 20 + 5 \times 2 - 4$$

$$= 20 + 10 - 4$$

$$= 20 + 6 = 26$$

$$(d) 48 \div 16 \times 2 + 17 - 9$$

$$= 3 \times 2 + 17 - 9$$

$$= 6 + 17 - 9$$

$$= 6 + 8 = 14$$

$$(e) 52 \div 13 \times 5 - 17 + 10$$

$$= 4 \times 5 - 17 + 10$$

$$= 20 - 17 + 10$$

$$= 3 + 10 = 13$$

$$(f) 121 \div 11 + 29 - 2 \times 10$$

$$= 11 + 29 - 2 \times 10$$

$$= 11 + 29 - 20 = 11 + 9 = 20$$

2. Solve these :

$$(a) (18 + 10) - (3 \times 6)$$

$$= 28 - 18 = 10$$

$$(b) (14 + 7) \times (13 - 8)$$

$$= 21 \times 5 = 105$$

$$(c) (50 - 23) \times 12$$

$$= 27 \times 12 = 324$$

$$(d) (10 \times 8) \div (20 \div 5)$$

$$= 80 \div 4 = 20$$

$$(e) 24 + 15 \div 5 \times (9 - 3)$$

$$= 24 + 3 \times (9 - 3)$$

$$= 24 + 3 \times 6 = 24 + 18 = 42$$

$$(f) 12 \times 3 \div 3 \times 4 - 2 + 6$$

$$= 12 \times 1 \times 4 - 2 + 6$$

$$= 48 - 2 + 6 = 48 + 4 = 52$$

3. Simplify these :

$$(a) \{20 - (24 - 10)\} + 7$$

$$= \{20 - 14\} + 7 = 6 + 7 = 13$$

$$(b) \{20 + (15 + 5)\} - 5$$

$$= \{20 + 20\} - 5$$

$$= 40 - 5 = 35$$

$$(c) \{(18 + 17) \div 5\} \div 7$$

$$= \{35 \div 5\} \div 7 = 7 \div 7 = 1$$

$$(d) 0.4 \{1.7 - 0.4(0.7 + 0.8)\}$$

$$= 0.4 \{1.7 - 0.4 \times 1.5\}$$

$$= 0.4 \{1.7 - 0.6\}$$

$$= 0.4 \times 1.1 = 0.44$$

$$(e) \left(\frac{9}{12} - \frac{5}{12}\right) - \frac{3}{12}$$

$$\left(\frac{4}{12} - \frac{1}{3}\right) - \frac{3}{12} = \frac{1}{3} - \frac{3}{12}$$

$$= \frac{4 - 3}{12} = \frac{1}{12}$$

$$(f) \frac{11}{14} + 3 \left(\frac{4}{7} + \frac{2}{14}\right)$$

$$= \frac{11}{14} + 3 \left(\frac{8 + 2}{14}\right)$$

$$= \frac{11}{14} + 3 \times \frac{10}{14}$$

$$= \frac{11}{14} + \frac{15}{7}$$

$$= \frac{11 + 30}{14}$$

$$= \frac{41}{14}$$

$$= 2\frac{13}{14}$$

5- H. C. F. and L. C. M.

Exercise- 5.1

1. Tick (✓) all the factors of 24 :

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

2. Tick (✓) all the factors of 42 :

42 = 1, 2, 3, 7, 21, 42

3. Find the prime factors of the following numbers :

(a) 84 prime factor are = $2 \times 2 \times 3$

$\times 7$ (b) 24 = $2 \times 2 \times 2 \times 3$

(c) 15 = 5×3 (d) 28 = $2 \times 2 \times 7$

(e) 25 = 5×5 (f) 8 = $2 \times 2 \times 2$

4. Tick (✓) the multiples of 6 :

6 = 6, 12, 18, 24, 30

5. Tick (✓) the multiples of 8 :

8 = 8, 16, 24, 32

6. Tick (✓) the pairs which are co-prime numbers :

Co - Prime number are

= (3, 5), (9, 11)

7. Write any three numbers which are :

(a) 1, 2, 3 (b) 0, 1, 2 (c) 2, 4, 6 (d) 1,

3, 7 (e) 2, 3, 5

Exercise- 5.2

1. Find the H. C. F. of the following numbers :

(a) 15, 3

The factor of 15 = 3×5

The factor of 3 = 3 H.C.F. = 3

(b) 16, 24

The factor of 16 = $2 \times 2 \times 2 \times 2$

The factor of 24 = $2 \times 2 \times 2 \times 3$

H. C. F. = $2 \times 2 \times 2 = 8$

(c) 36, 81

$36 = 2 \times 2 \times 3 \times 3$

$81 = 3 \times 3 \times 3 \times 3$

H. C. F. = $3 \times 3 = 9$

(d) 27, 54

$27 = 3 \times 3 \times 3$

$54 = 3 \times 3 \times 3 \times 2$

H. C. F. = $3 \times 3 \times 3 = 27$

(e) 18, 72

$18 = 2 \times 3 \times 3$

$72 = 2 \times 2 \times 2 \times 3 \times 3$

H. C. F. = $2 \times 3 \times 3 = 18$

(f) 5, 45

$5 = 5 \times 1$

$45 = 5 \times 3 \times 3$

H.C.F. = 5

(g) 48, 60

$48 = 2 \times 2 \times 2 \times 2 \times 3$

$60 = 2 \times 2 \times 2 \times 3$

H.C.F. = $2 \times 2 \times 3 = 12$

(h) 28, 36

$28 = 2 \times 2 \times 7$

$36 = 2 \times 2 \times 3 \times 3$

H.C.F. = $2 \times 2 = 4$

(i) 36, 108

$36 = 2 \times 2 \times 3 \times 3$

$108 = 2 \times 2 \times 3 \times 3 \times 3$

H.C.F. = $3 \times 3 \times 2 \times 2 = 36$

(j) 16, 24, 20

$16 = 2 \times 2 \times 2 \times 2$

$24 = 2 \times 2 \times 2 \times 3$

$20 = 2 \times 2 \times 5$

H.C.F. = $2 \times 2 = 4$

(k) 25, 60

$25 = 5 \times 5$, $60 = 2 \times 2 \times 5 \times 3$

H.C.F. = 5

(l) 12, 36

$12 = 2 \times 2 \times 3$

$36 = 2 \times 2 \times 3 \times 3$

H.C.F. = $2 \times 2 \times 3 = 12$

Exercise- 5.3

(a) 72, 80

$72 = 2 \times 2 \times 2 \times 3 \times 3$

$80 = 2 \times 2 \times 2 \times 2 \times 5$

H.C.F. = $2 \times 2 \times 2 = 8$

(b) 35, 70

$35 = 5 \times 7$

$70 = 2 \times 5 \times 7$

H.C.F. = $5 \times 7 = 35$

(c) 36, 24

$36 = 2 \times 2 \times 3 \times 3$

$24 = 2 \times 2 \times 2 \times 3$

H.C.F. = $2 \times 2 \times 3 = 12$

(d) 18, 45

$18 = 2 \times 3 \times 3$

$45 = 5 \times 3 \times 3$

H.C.F. = 9

(e) 64, 48

$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$

$48 = 2 \times 2 \times 2 \times 2 \times 3$

H.C.F. = 16

(f) 220, 120

$220 = 2 \times 2 \times 5 \times 11$

$120 = 2 \times 2 \times 2 \times 3 \times 5$

H.C.F. = $2 \times 2 \times 5 = 20$

(g) 80, 60

$80 = 2 \times 2 \times 2 \times 2 \times 5$

$60 = 2 \times 2 \times 3 \times 5$

H.C.F. = $2 \times 2 \times 5 = 20$

$$\begin{array}{l}
 \text{(h) } 300, 240 \qquad 3 \mid 300 \quad 2 \mid 240 \\
 300 = 3 \times 5 \times 5 \times 2 \times 2 \quad \begin{array}{c|c|c} 5 & 100 & 2 \\ \hline 2 & 20 & 2 \\ \hline 2 & 4 & 2 \\ \hline 2 & 2 & 3 \\ \hline 1 & 5 & 5 \end{array} \\
 240 = 2 \times 2 \times 2 \times 2 \times 3 \times 5 \quad \begin{array}{c|c|c} 5 & 20 & 2 \\ \hline 2 & 4 & 2 \\ \hline 2 & 2 & 3 \\ \hline 1 & 5 & 5 \end{array} \\
 \text{H.C.F.} \qquad \begin{array}{c|c|c} 5 & 20 & 2 \\ \hline 2 & 4 & 2 \\ \hline 2 & 2 & 3 \\ \hline 1 & 5 & 5 \end{array} \\
 = 2 \times 2 \times 3 \times 5 = 60
 \end{array}$$

Exercise-5.4

Using the long division method, find the H.C.F. of the following numbers :

$$\begin{array}{r}
 \text{(a) } 3685, 4154 \\
 3685 \overline{)4154} \begin{array}{l} 1 \\ 3685 \\ \hline 469 \end{array} \overline{)3685} \begin{array}{l} 7 \\ 3283 \\ \hline 402 \end{array} \overline{)469} \begin{array}{l} 1 \\ 402 \\ \hline 67 \end{array} \overline{)402} \begin{array}{l} 6 \\ 402 \\ \hline 0 \end{array}
 \end{array}$$

The last divisor is = 67
So, the H.C.F is = 67

$$\begin{array}{r}
 \text{(b) } 2430, 2754 \\
 2430 \overline{)2754} \begin{array}{l} 1 \\ 2430 \\ \hline 324 \end{array} \overline{)2430} \begin{array}{l} 7 \\ 2268 \\ \hline 162 \end{array} \overline{)324} \begin{array}{l} 2 \\ 324 \\ \hline 0 \end{array}
 \end{array}$$

The last divisor is = 162
So, the H.C.F is = 162

$$\begin{array}{r}
 \text{(c) } 1008, 2064 \\
 1008 \overline{)2064} \begin{array}{l} 2 \\ 2016 \\ \hline 48 \end{array} \overline{)1008} \begin{array}{l} 21 \\ 96 \\ \hline 48 \\ \hline 48 \\ \hline 0 \end{array}
 \end{array}$$

The last divisor is = 48
So, the H.C.F is = 48

$$\begin{array}{r}
 \text{(d) } 875, 225, 685 \\
 225 \overline{)685} \begin{array}{l} 3 \\ 675 \\ \hline 10 \end{array} \overline{)225} \begin{array}{l} 22 \\ 20 \\ \hline 25 \\ \hline 20 \\ \hline 5 \end{array} \overline{)10} \begin{array}{l} 2 \\ 10 \\ \hline 0 \end{array} \\
 \swarrow \\
 5 \overline{)875} \begin{array}{l} 175 \\ 5 \\ \hline 37 \\ \hline 35 \\ \hline 25 \\ \hline 25 \\ \hline 0 \end{array}
 \end{array}$$

The last divisor is = 5
So, the H.C.F. is = 5

$$\begin{array}{r}
 \text{(e) } 244, 120, 388 \\
 120 \overline{)388} \begin{array}{l} 3 \\ 360 \\ \hline 28 \end{array} \overline{)120} \begin{array}{l} 4 \\ 112 \\ \hline 8 \end{array} \overline{)28} \begin{array}{l} 3 \\ 24 \\ \hline 4 \end{array} \overline{)8} \begin{array}{l} 2 \\ 8 \\ \hline 0 \end{array} \\
 \swarrow \\
 4 \overline{)244} \begin{array}{l} 61 \\ 24 \\ \hline 4 \\ \hline 4 \\ \hline 0 \end{array}
 \end{array}$$

The last divisor is = 4
So, the H.C.F. is = 4

$$\begin{array}{r}
 \text{(f) } 180, 240, 360 \\
 180 \overline{)240} \begin{array}{l} 1 \\ 180 \\ \hline 60 \end{array} \overline{)180} \begin{array}{l} 3 \\ 180 \\ \hline 0 \end{array} \\
 \swarrow \\
 60 \overline{)360} \begin{array}{l} 6 \\ 360 \\ \hline 0 \end{array}
 \end{array}$$

The last divisor is = 60
So, the H.C.F. is = 60

(g) 910, 1155

$$\begin{array}{r}
 910 \overline{)1155} (1 \\
 \underline{910} \\
 245 \overline{)910} (3 \\
 \underline{735} \\
 175 \overline{)245} (1 \\
 \underline{175} \\
 70 \overline{)175} (2 \\
 \underline{140} \\
 35 \overline{)70} (2 \\
 \underline{70} \\
 \times
 \end{array}$$

The last divisor is = 35

So, the H.C.F. is = 35

(h) 2150, 3340, 1945

$$\begin{array}{r}
 1945 \overline{)2150} (1 \\
 \underline{1945} \\
 205 \overline{)1945} (9 \\
 \underline{1845} \\
 100 \overline{)205} (2 \\
 \underline{200} \\
 5 \overline{)100} (20 \\
 \underline{10} \\
 0 \\
 0 \\
 \times
 \end{array}$$

$$\begin{array}{r}
 5 \overline{)3340} (668 \\
 \underline{30} \\
 34 \\
 \underline{30} \\
 40 \\
 \underline{40} \\
 0 \\
 \times
 \end{array}$$

The last divisor is = 5

So, the H.C.F. is = 5

(i) 2100, 3225

$$\begin{array}{r}
 2100 \overline{)3225} (1 \\
 \underline{2100} \\
 1125 \overline{)2100} (1 \\
 \underline{1125} \\
 975 \overline{)1125} (1 \\
 \underline{975} \\
 150 \overline{)975} (6 \\
 \underline{900} \\
 75 \overline{)150} (2 \\
 \underline{150} \\
 \times
 \end{array}$$

The last divisor is = 75

So, the H.C.F. is = 75

(j) 96, 288, 256

$$\begin{array}{r}
 96 \overline{)256} (1 \\
 \underline{192} \\
 64 \overline{)96} (1 \\
 \underline{64} \\
 32 \overline{)64} (2 \\
 \underline{64} \\
 \times
 \end{array}$$

The last divisor is = 32

So, the H.C.F. is = 32

(k) 279, 186

$$\begin{array}{r}
 186 \overline{)279} (1 \\
 \underline{186} \\
 93 \overline{)186} (2 \\
 \underline{186} \\
 \times
 \end{array}$$

The last divisor is = 93

So, the H.C.F. is = 93

(l) 828, 1932

$$\begin{array}{r}
 828 \overline{)1932} (2 \\
 \underline{1656} \\
 276 \overline{)828} (3 \\
 \underline{828} \\
 \times
 \end{array}$$

The last divisor is = 276

So, the H.C.F. is = 276

Exercise- 5.5

1. Find highest number = 1008, 2064

$$\begin{array}{r}
 1008 \overline{)2064} (2 \\
 \underline{2016} \\
 48 \overline{)1008} (21 \\
 \underline{96} \\
 48 \\
 \underline{48} \\
 \times
 \end{array}$$

Highest Number = 48

2. 3020, 2835, 3125

$$\begin{array}{r}
 2835 \overline{)3020} 1 \\
 \underline{2835} \\
 185 \\
 185 \overline{)2835} 15 \\
 \underline{185} \\
 985 \\
 925 \\
 60 \overline{)185} 3 \\
 \underline{180} \\
 5 \overline{)60} 12 \\
 \underline{5} \\
 10 \\
 10 \\
 \underline{\times}
 \end{array}$$

$$\begin{array}{r}
 5 \overline{)3125} 625 \\
 \underline{30} \\
 12 \\
 10 \\
 25 \\
 25 \\
 \underline{\times}
 \end{array}$$

The last divisor is = 5
So, the H.C.F. is = 5

3. 416, 572

$$\begin{array}{r}
 416 \overline{)572} 1 \\
 \underline{416} \\
 156 \\
 156 \overline{)416} 2 \\
 \underline{312} \\
 104 \\
 104 \overline{)156} 1 \\
 \underline{104} \\
 52 \overline{)104} 2 \\
 \underline{104} \\
 \underline{\times}
 \end{array}$$

The last divisor is = 52
So, the H.C.F. IS = 52

4. 124, 112, 256

$$\begin{array}{r}
 112 \overline{)124} 1 \\
 \underline{112} \\
 12 \\
 12 \overline{)112} 9 \\
 \underline{108} \\
 4 \overline{)12} 3 \\
 \underline{12} \\
 \underline{\times}
 \end{array}$$

$$\begin{array}{r}
 4 \overline{)256} 64 \\
 \underline{24} \\
 16 \\
 16 \\
 \underline{\times}
 \end{array}$$

The last divisor is H.C.F. = 4
Maximum no. of bowlers = 4

5. 96, 80

$$\begin{array}{r}
 80 \overline{)96} 1 \\
 \underline{80} \\
 16 \\
 16 \overline{)80} 5 \\
 \underline{80} \\
 \underline{\times}
 \end{array}$$

The last divisor is H.C.F. = 16
Maximum capacity of tank is 16 l

6. 224, 336

$$\begin{array}{r}
 224 \overline{)336} 1 \\
 \underline{224} \\
 112 \\
 112 \overline{)224} 2 \\
 \underline{224} \\
 \underline{\times}
 \end{array}$$

The last divisor is = 112
So, the H.C.F. is = 112

7. Leaving number = 62 - 2 = 60
= 227 - 2 = 225 = 60, 225

$$\begin{array}{r}
 60 \overline{)225} 3 \\
 \underline{180} \\
 45 \\
 45 \overline{)60} 1 \\
 \underline{45} \\
 15 \\
 15 \overline{)45} 3 \\
 \underline{45} \\
 \underline{\times}
 \end{array}$$

The last divisor is = 15
So, the H.C.F. is = 15

8. 99 - 3 = 96

$$291 - 3 = 288$$

$$259 - 3 = 256$$

$$\begin{array}{r}
 96 \overline{)256} 2 \\
 \underline{192} \\
 64 \\
 64 \overline{)96} 1 \\
 \underline{64} \\
 32 \\
 32 \overline{)64} 2 \\
 \underline{64} \\
 \underline{\times}
 \end{array}$$

$$\begin{array}{r}
 32 \overline{)288} 9 \\
 \underline{288} \\
 \underline{\times}
 \end{array}$$

The last divisor is = 32
So, the H.C.F. is = 32

Exercise- 5.6

Find the L.C.M. of the following numbers :

$$(a) \begin{array}{l|l} 2 & 12, 16, 18 \\ \hline 2 & 6, 8, 9 \\ \hline 2 & 3, 4, 9 \\ \hline 2 & 3, 2, 9 \\ \hline 3 & 3, 1, 9 \\ \hline 3 & 1, 1, 3 \\ \hline & 1, 1, 1 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 144$$

$$(b) \begin{array}{l|l} 2 & 100, 75, 300 \\ \hline 2 & 50, 75, 150 \\ \hline 5 & 25, 75, 75 \\ \hline 5 & 5, 15, 15 \\ \hline 3 & 1, 3, 3 \\ \hline & 1, 1, 1 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 5 \times 5 \times 3 = 300$$

$$(c) \begin{array}{l|l} 2 & 20, 30, 40 \\ \hline 2 & 10, 15, 20 \\ \hline 5 & 5, 15, 10 \\ \hline 3 & 1, 3, 2 \\ \hline 2 & 1, 1, 2 \\ \hline & 1, 1, 1 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 5 \times 3 \times 2 = 120$$

$$(d) \begin{array}{l|l} 2 & 102, 256, 119 \\ \hline 3 & 51, 128, 119 \\ \hline 17 & 17, 128, 119 \\ \hline 7 & 1, 128, 7 \\ \hline 2 & 1, 128, 1 \\ \hline 2 & 1, 64, 1 \\ \hline 2 & 1, 32, 1 \\ \hline 2 & 1, 16, 1 \\ \hline 2 & 1, 8, 1 \\ \hline 2 & 1, 4, 1 \\ \hline 2 & 1, 2, 1 \\ \hline & 1, 1, 1 \end{array}$$

$$2 \times 3 \times 17 \times 7 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$$

$$= 119 \times 128 \times 2 \times 3$$

$$= 119 \times 256 \times 3 = 3 \times 30464 =$$

$$\text{L.C.M} = 91392$$

$$(e) \begin{array}{l|l} 2 & 54, 99, 144 \\ \hline 2 & 27, 99, 72 \\ \hline 3 & 27, 99, 36 \\ \hline 3 & 9, 33, 12 \\ \hline 3 & 3, 11, 4 \\ \hline 11 & 1, 11, 4 \\ \hline 2 & 1, 1, 4 \\ \hline 2 & 1, 1, 2 \\ \hline & 1, 1, 1 \end{array}$$

$$2 \times 2 \times 3 \times 3 \times 3 \times 11 \times 2 \times 2 =$$

$$144 \times 3 \times 11$$

$$= 432 \times 11 = \text{L.C.M} = 4752$$

$$(f) \begin{array}{l|l} 3 & 930, 909 \\ \hline 3 & 310, 303 \\ \hline 2 & 310, 101 \\ \hline 5 & 155, 101 \\ \hline 31 & 31, 101 \\ \hline 101 & 1, 101 \\ \hline & 1, 1 \end{array}$$

$$\text{L.C.M} = 3 \times 3 \times 2 \times 5 \times 31 \times 101 =$$

$$281790$$

$$(g) \begin{array}{l|l} 2 & 120, 240, 360 \\ \hline 2 & 60, 120, 180 \\ \hline 2 & 30, 60, 90 \\ \hline 2 & 15, 30, 45 \\ \hline 5 & 15, 15, 45 \\ \hline 3 & 3, 3, 9 \\ \hline 3 & 1, 1, 3 \\ \hline & 1, 1, 1 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 2 \times 2 \times 5 \times 3 \times 3 = 720$$

$$(h) \begin{array}{l|l} 2 & 10, 15, 20, 25 \\ \hline 2 & 5, 15, 10, 25 \\ \hline 5 & 5, 15, 5, 25 \\ \hline 5 & 1, 3, 1, 5 \\ \hline 3 & 1, 3, 1, 1 \\ \hline & 1, 1, 1, 1 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 5 \times 5 \times 3 = 300$$

$$\begin{array}{r}
 \text{(i)} \quad 2 \overline{) 480, 960, 720} \\
 \underline{2 \quad 240, 480, 360} \\
 2 \overline{) 120, 240, 180} \\
 \underline{2 \quad 60, 120, 90} \\
 2 \overline{) 30, 60, 45} \\
 \underline{2 \quad 15, 30, 45} \\
 5 \overline{) 15, 15, 45} \\
 \underline{3 \quad 3, 3, 9} \\
 3 \overline{) 1, 1, 3} \\
 \underline{\quad 1, 1, 1}
 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 3 \times 3 = 2880$$

$$\begin{array}{r}
 \text{(j)} \quad 2 \overline{) 288, 96} \\
 \underline{2 \quad 144, 48} \\
 2 \overline{) 72, 24} \\
 \underline{2 \quad 36, 12} \\
 2 \overline{) 18, 6} \\
 \underline{3 \quad 9, 3} \\
 3 \overline{) 3, 1} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 288$$

$$\begin{array}{r}
 \text{(k)} \quad 2 \overline{) 38, 48} \\
 \underline{2 \quad 19, 24} \\
 2 \overline{) 19, 12} \\
 \underline{2 \quad 19, 6} \\
 3 \overline{) 19, 3} \\
 \underline{19 \quad 19, 1} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 2 \times 2 \times 3 \times 19 = 912$$

$$\begin{array}{r}
 \text{(l)} \quad 2 \overline{) 46, 24} \\
 \underline{2 \quad 23, 12} \\
 2 \overline{) 23, 6} \\
 \underline{3 \quad 23, 3} \\
 23 \overline{) 23, 1} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 2 \times 3 \times 23 = 552$$

Exercise- 5.7

$$\begin{array}{r}
 \text{1.} \quad 2 \overline{) 52, 65} \\
 \underline{2 \quad 26, 65} \\
 13 \overline{) 13, 65} \\
 \underline{5 \quad 1, 5} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 13 \times 5 = 260$$

$$\begin{array}{r}
 \text{2.} \quad 5 \overline{) 150, 180} \\
 \underline{5 \quad 30, 36} \\
 2 \overline{) 6, 36} \\
 \underline{3 \quad 3, 18} \\
 3 \overline{) 1, 6} \\
 \underline{2 \quad 1, 2} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$\text{L.C.M} = 5 \times 5 \times 2 \times 3 \times 3 \times 2 = 900$$

$$\begin{array}{r}
 \text{3.} \quad 2 \overline{) 224, 336} \\
 \underline{2 \quad 112, 168} \\
 2 \overline{) 56, 84} \\
 \underline{2 \quad 28, 42} \\
 7 \overline{) 14, 21} \\
 \underline{2 \quad 2, 3} \\
 3 \overline{) 1, 3} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$\text{L.C.M} = 2 \times 2 \times 2 \times 2 \times 7 \times 2 \times 3 = 672$$

$$\begin{array}{r}
 \text{4.} \quad 5 \overline{) 85, 90, 75} \\
 \underline{17 \quad 17, 18, 15} \\
 3 \overline{) 1, 18, 15} \\
 \underline{3 \quad 1, 6, 5} \\
 2 \overline{) 1, 2, 5} \\
 \underline{5 \quad 1, 1, 5} \\
 \underline{\quad 1, 1, 1}
 \end{array}$$

$$5 \times 17 \times 3 \times 3 \times 2 \times 5 = 7650 \text{ litre}$$

$$\begin{array}{r}
 \text{5.} \quad 2 \overline{) 112, 218} \\
 \underline{2 \quad 56, 109} \\
 2 \overline{) 28, 109} \\
 \underline{2 \quad 14, 109} \\
 7 \overline{) 7, 109} \\
 \underline{109 \quad 1, 109} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$2 \times 2 \times 2 \times 2 \times 7 \times 109 = 12208 \text{ litre}$$

$$\begin{array}{r}
 \text{6.} \quad 2 \overline{) 2536, 3236} \\
 \underline{2 \quad 1268, 1618} \\
 2 \overline{) 634, 809} \\
 \underline{317 \quad 317, 809} \\
 809 \overline{) 1, 809} \\
 \underline{\quad 1, 1}
 \end{array}$$

$$2 \times 2 \times 2 \times 317 \times 809 = 2051624 \text{ litre}$$

$$\begin{array}{r|l}
 2 & 84, 92 \\
 \hline
 2 & 42, 46 \\
 \hline
 3 & 21, 23 \\
 \hline
 7 & 7, 23 \\
 \hline
 23 & 1, 23 \\
 \hline
 & 1, 1
 \end{array}$$

$$2 \times 2 \times 3 \times 7 \times 23 = 1932 + 7 = 1939$$

$$\begin{array}{r|l}
 8. \quad 2 & 506, 759 \\
 \hline
 3 & 253, 759 \\
 \hline
 253 & 253, 253 \\
 \hline
 & 1, 1
 \end{array}$$

$$2 \times 3 \times 253 = 1518 + 12 = 1530$$

Exercise- 5.8

1. Fill in the blanks :

(a) First number $\times$ Second number
 $=$ H.C.F. $\times$ L.C.M.

(b) First number $=$

$$\frac{\text{H.C.F.} \times \text{L.C.M.}}{\text{Second Number}}$$

(c) H.C.F. $=$

$$\frac{\text{First Number} \times \text{second No}}{\text{L.C.M.}}$$

(d) L.C.M. $=$

$$\frac{\text{First Number} \times \text{second No}}{\text{H.C.F.}}$$

2. H.C.F. = 36

L.C.M. = 60900

One number = 1044

Second number $=$

$$\frac{\text{H.C.F.} \times \text{L.C.M.}}{\text{One Number}}$$

$$= \frac{36 \times 60900}{1044} = 2100$$

$$\Rightarrow 2100$$

3. H.C.F. = 27

L.C.M. = 12960

One number = 405

Second number $= \frac{\text{H.C.F.} \times \text{L.C.M.}}{\text{One Number}}$

$$= \frac{27 \times 12960}{405} = 864$$

4. H.C.F. = 276, 300

$$\begin{array}{r}
 276 \overline{) 300} 1 \\
 \underline{276} \\
 24 \overline{) 276} 11 \\
 \underline{24} \\
 36 \\
 \underline{24} \\
 12 \overline{) 24} 2 \\
 \underline{24} \\
 \times
 \end{array}$$

Last divisor is = H.C.F. = 12

$$\begin{array}{r|l}
 \text{L.C.M.} \quad 2 & 276, 300 \\
 \hline
 2 & 138, 150 \\
 \hline
 3 & 69, 75 \\
 \hline
 5 & 23, 25 \\
 \hline
 5 & 23, 5 \\
 \hline
 23 & 1, 1
 \end{array}$$

$$\text{L.C.M.} = 2 \times 2 \times 3 \times 5 \times 5 \times 23 = 6900$$

$$\text{H.C.F.} \times \text{L.C.M.} = 12 \times 6900 = 82800$$

Product of two number $=$

$$276 \times 300 = 82800$$

5. 2210, 2925 H.C.F.

$$\begin{array}{r}
 2210 \overline{) 2925} 1 \\
 \underline{2210} \\
 715 \overline{) 2210} 3 \\
 \underline{715} \\
 2145 \\
 \underline{65} 715 11 \\
 \underline{65} \\
 65 \\
 \underline{65} \\
 \times
 \end{array}$$

Last divisor is 65 $\Rightarrow$ H.C.F. = 65

$$\begin{array}{r|l}
 \text{L.C.M.} \quad 2 & 2210, 2925 \\
 \hline
 5 & 1105, 2925 \\
 \hline
 5 & 221, 585 \\
 \hline
 3 & 221, 117 \\
 \hline
 3 & 221, 39 \\
 \hline
 13 & 221, 13 \\
 \hline
 17 & 17, 1 \\
 \hline
 & 1, 1
 \end{array}$$

$$\text{L.C.M.} = 2 \times 5 \times 5 \times 3 \times 13 \times 17 = 99450$$

$$\text{H.C.F.} \times \text{L.C.M.} = 65 \times 99450 \\ = 646450$$

$$\text{Product of two numbers} = 2210 \times 2925 = 6464250$$

$$6. \text{H.C.F.} = \frac{\text{One Number} \times \text{Second}}{\text{L.C.M.}} \\ = \frac{1566 \times 2030}{54810} = 58$$

Multiple Choice Questions

Choose the correct answer :

1. (a) 1 2. (d) 9 3. (c) prime numbers 4. (c) 1, 3, 5, 15 5. (c) 126

Exercise- 6.1

1. Write the following as improper fractions :

(a) $\frac{39}{9}$ (b) $\frac{9}{2}$ (c) $\frac{217}{14}$ (d) $\frac{13}{3}$

2. Write as mixed fractions :

(a) $82\frac{1}{5}$ (b) $68\frac{4}{12}$ (c) $30\frac{11}{18}$

3. Reduce the following to the simplest form :

(a) $\frac{8}{25}$ (b) $\frac{1}{120}$ (c) $\frac{1}{64}$ (d) $\frac{1}{7}$
(e) $\frac{3}{5}$ (f) $\frac{9}{8}$ (g) $\frac{1}{3}$ (h) $\frac{2}{3}$

Exercise- 6.2

1. Arrange the following fractions in ascending and descending orders :

(a) Ascending order

$$\frac{1}{6} < \frac{2}{3} < \frac{5}{8} < \frac{3}{4}$$

Descending order

$$\frac{3}{4} > \frac{5}{8} > \frac{2}{3} > \frac{1}{6}$$

(b) Ascending order

$$\frac{1}{8} < \frac{2}{9} < \frac{9}{16} < \frac{3}{15}$$

Descending order

$$\frac{3}{5} > \frac{9}{16} > \frac{2}{9} > \frac{1}{8}$$

(c) Ascending order

$$\frac{1}{9} < \frac{1}{3} < \frac{7}{18} < \frac{3}{7}$$

Descending order

$$\frac{3}{7} > \frac{7}{18} > \frac{1}{3} > \frac{1}{9}$$

(d) Ascending order

$$\frac{2}{5} < \frac{2}{4} < \frac{3}{4} < \frac{4}{4}$$

Descending order

$$\frac{4}{4} > \frac{3}{4} > \frac{2}{4} > \frac{2}{5}$$

(e) Ascending order

$$\frac{2}{7} < \frac{5}{16} < \frac{9}{17} < \frac{9}{15}$$

Descending order

$$\frac{9}{15} > \frac{9}{17} > \frac{5}{16} > \frac{2}{7}$$

(f) Ascending order

$$\frac{1}{18} < \frac{1}{9} < \frac{1}{8} < \frac{1}{6}$$

Descending order

$$\frac{1}{6} > \frac{1}{8} > \frac{1}{9} > \frac{1}{18}$$

2. Which is greater :

(a) $\frac{2}{9} > \frac{5}{9}$ (b) $\frac{1}{18} < \frac{1}{6}$

(c) $\frac{2}{119} < \frac{19}{119}$ (d) $\frac{15}{4} > \frac{15}{19}$

(e) $\frac{3}{7} < \frac{5}{8}$ (f) $\frac{4}{19} > \frac{2}{37}$

Exercise- 6.3

1. Find the sum :

(a) $\frac{1}{4} + \frac{3}{5} = \frac{5+12}{20} = \frac{17}{20}$

(b) $\frac{5}{12} + \frac{1}{3} = \frac{5+4}{12} = \frac{9}{12} = \frac{3}{4}$

(c) $\frac{5}{18} + \frac{2}{14}$

2	18, 14
3	9, 7
3	3, 7
7	1, 7
	1, 1

$$= \frac{70+36}{126} = \frac{106}{126}$$

(d) $\frac{1}{4} + \frac{4}{9} = \frac{9+16}{36} = \frac{25}{36}$

$$(e) 5\frac{1}{2} + 4\frac{3}{4} = \frac{11}{2} + \frac{19}{4}$$

$$= \frac{44 + 38}{8} = \frac{82}{8} = \frac{41}{4} = 10\frac{1}{4}$$

$$(f) \frac{2}{9} + \frac{3}{29} = \frac{58 + 27}{261} = \frac{85}{261}$$

2. Find the sum :

$$(a) \frac{4}{15} + \frac{8}{12} + \frac{2}{4}$$

3	15, 12, 4
4	5, 4, 4
5	5, 1, 1
	1, 1, 1

$$= \frac{16 + 40 + 30}{60}$$

$$= \frac{86}{60} = 1\frac{26}{60} = 1\frac{13}{30}$$

$$3 \times 4 \times 5 = 60$$

$$(b) \frac{8}{9} + \frac{5}{12} + \frac{7}{18}$$

3	9, 12, 18
3	3, 4, 6
2	1, 4, 2
2	1, 2, 1
	1, 1, 1

$$= \frac{32 + 15 + 14}{36}$$

$$= \frac{61}{36} = 1\frac{25}{36}$$

$$3 \times 3 \times 2 \times 2 = 36$$

$$(c) 9\frac{4}{10} + 4\frac{4}{10} + 7\frac{4}{10}$$

$$\frac{94}{10} + \frac{44}{10} + \frac{74}{10} = \frac{94 + 44 + 74}{10}$$

$$= \frac{212}{10} = 21\frac{2}{10} = 21\frac{1}{5}$$

$$(d) 6\frac{1}{10} + 4\frac{2}{15} + 1\frac{1}{5}$$

5	10, 15, 5
2	2, 3, 1
3	1, 3, 1
	1, 1, 1

$$= \frac{61 + 62 + 6}{30}$$

$$= \frac{183 + 124 + 36}{30}$$

$$= \frac{343}{30} = 11\frac{13}{30}$$

$$5 \times 2 \times 3 = 30$$

$$(e) 3\frac{1}{3} + 4\frac{3}{4} + 5\frac{4}{12}$$

3	3, 4, 12
2	1, 4, 4
2	1, 2, 2
	1, 1, 1

$$= \frac{10}{3} + \frac{19}{4} + \frac{64}{12}$$

$$= \frac{40 + 57 + 64}{12}$$

$$= \frac{161}{12} = 13\frac{5}{12}$$

$$3 \times 2 \times 2 = 12$$

$$(f) 6\frac{1}{4} + 5\frac{2}{6} + 7\frac{4}{12}$$

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

$$= \frac{25}{4} + \frac{32}{6} + \frac{88}{12}$$

$$= \frac{75 + 64 + 88}{12}$$

$$= \frac{227}{12} = 18\frac{11}{12}$$

$$2 \times 2 \times 3 = 12$$

Exercise- 6.4

Subtract :

$$(a) \frac{9}{12} - \frac{3}{5} = \frac{45 - 36}{60} = \frac{9}{60} = \frac{3}{20}$$

$$(b) \frac{5}{6} - \frac{2}{6} = \frac{5 - 2}{6} = \frac{3}{6} = \frac{1}{2}$$

$$(c) \frac{11}{12} - \frac{11}{18}$$

2	12, 18
2	6, 9
3	3, 9
3	1, 3
	1, 1

$$= \frac{33 - 22}{36} = \frac{11}{36}$$

$$2 \times 2 \times 3 \times 3 = 36$$

$$(d) 5\frac{2}{8} - \frac{4}{16} = \frac{42}{8} = \frac{4}{16}$$

$$= \frac{84 - 4}{16} = \frac{80}{16} = 5$$

$$(e) 1\frac{3}{4} - \frac{5}{12} = \frac{7}{4} - \frac{5}{12}$$

$$= \frac{21 - 5}{12} = \frac{16}{12} = \frac{4}{3} = 1\frac{1}{3}$$

$$(f) 2\frac{2}{3} - 1\frac{4}{5} = \frac{8}{3} - \frac{9}{5}$$

$$= \frac{40 - 27}{15} = \frac{13}{15}$$

$$(g) 9\frac{3}{8} - 4\frac{4}{16} = \frac{75}{8} - \frac{68}{16}$$

$$= \frac{150 - 68}{16} = \frac{82}{16} = 5\frac{2}{16} = 5\frac{1}{8}$$

$$(h) \frac{7}{13} - \frac{4}{13} = \frac{7 - 4}{13} = \frac{3}{13}$$

$$(i) \frac{9}{26} - \frac{2}{13} = \frac{9 - 4}{26} = \frac{5}{26}$$

Exercise- 6.5

1. $1\frac{1}{4} - = \frac{4-1}{4} = \frac{3}{4}$
2. Perimeter of rectangle $= 16\frac{1}{4}$
 $= \frac{65}{4}$ meter

$$\text{Length of rectangle} = 1\frac{1}{2} = \frac{3}{2}$$

$$\text{Breadth} = \frac{65}{4 \times 2} - \frac{3}{2} = \frac{65-12}{8}$$

$$= \frac{53}{8} = 6\frac{5}{8} \text{ metre}$$

3. Rama bought potatoes. $= \frac{23}{4}$ kg

$$\text{Rama used potatoes} = \frac{3}{2} \text{ kg}$$

$$\text{Remaining potatoes} = \frac{23}{4} - \frac{3}{2}$$

$$= \frac{23-6}{4} = \frac{17}{4} = 4\frac{1}{4} \text{ kg}$$

4. Hari walked $= \frac{14}{3}$ km

$$\text{Shyam walked} = \frac{9}{4} \text{ km}$$

$$= \frac{56-27}{12} = \frac{29}{12} = 2\frac{5}{12} \text{ km}$$

$$\text{Hari walked} = 2\frac{5}{12} \text{ km more than shyam}$$

5. Total length of a tape $= 4\frac{1}{2} = \frac{9}{2}$

$$\text{cut off} = \frac{9}{8} \text{ m.}$$

$$\text{Remaining of tape} = \frac{9}{2} - \frac{9}{8}$$

$$= \frac{36-9}{8} = \frac{27}{8} = 3\frac{3}{8} \text{ m}$$

6. $1 - \frac{2}{3} = \frac{3-2}{3} = \frac{1}{3}$

$$\text{by train} = \frac{1}{3} \text{ of total journey}$$

7. Height of Hari $= \frac{14}{5}$ m

$$\text{Height of Shyam} = \frac{19}{10} \text{ m}$$

$$\text{More height} = \frac{14}{5} - \frac{19}{10}$$

$$= \frac{28-19}{10} = \frac{9}{10} \text{ m.}$$

8. Sugar in bag $= \frac{46}{5}$ kg

$$\text{given to Rekha} = \frac{37}{5} \text{ kg}$$

$$\text{Remains} = \frac{46}{5} - \frac{37}{5}$$

$$= \frac{9}{5} = 1\frac{4}{5} \text{ kg}$$

9. Travel by cycle $= \frac{31}{5}$ km

$$\text{Burst in cycle} = \frac{21}{2} \text{ km}$$

$$\text{still go} = \frac{31}{2} - \frac{21}{2} = \frac{31-21}{2}$$

$$= \frac{10}{2} = 5 \text{ km.}$$

10. Total height (Allan + David) $= \frac{7}{2}$ m.

$$\text{Allan height} = \frac{15}{8} \text{ m.}$$

$$\text{David's height} = \frac{7}{2} - \frac{15}{8}$$

$$= \frac{28-15}{8} = \frac{13}{8} = 1\frac{5}{8} \text{ m.}$$

$$\text{Allan is taller by} = (\frac{15}{8} - \frac{13}{8}) \text{ m.}$$

$$= \frac{2}{8} = \frac{1}{4} \text{ m.}$$

Exercise- 6.6

1. (a) $5 \times \frac{4}{5} = \frac{20}{5} = 4$

$$(b) 11 \times \frac{2}{12} = \frac{22}{12} = \frac{11}{6} = 1\frac{5}{6}$$

$$(c) 9 \times 1\frac{2}{3} = 9 \times \frac{5}{3} = \frac{45}{3} = 15$$

$$(d) 25 \times 5\frac{1}{2} = 25 \times \frac{11}{2} = \frac{275}{2}$$

$$(e) 49 \times 1\frac{4}{7} = 49 \times \frac{11}{7} = 77$$

- (f) $4 \times \frac{3}{12} = 4 \times \frac{1}{4} = 1$
- (g) $18 \times \frac{4}{3} = 6 \times 4 = 24$
- (h) $24 \times 2\frac{1}{3} = 24 \times \frac{7}{3} = 8 \times 7 = 56$
- (i) $14 \times \frac{3}{16} = \frac{7 \times 3}{8} = \frac{21}{8} = 2\frac{5}{8}$
2. (a) $\frac{4}{5} \times \frac{25}{4} = \frac{4 \times 5}{4} = \frac{20}{4} = 5$
- (b) $\frac{9}{4} \times \frac{12}{10} = \frac{9 \times 3}{10} = \frac{27}{10} = 2\frac{7}{10}$
- (c) $\frac{4}{7} \times \frac{28}{12} = \frac{4}{3} = 1\frac{1}{3}$
- (d) $\frac{1}{3} \times \frac{1}{5} \times \frac{1}{7} = \frac{1}{105}$
- (e) $\frac{1}{7} \times \frac{4}{3} \times \frac{7}{12} = \frac{1}{9}$
- (f) $4 \times \frac{8}{12} \times \frac{1}{3} = \frac{8}{9}$
- (g) $\frac{5}{8} \times \frac{6}{11} \times \frac{1}{3} = \frac{5 \times 2}{8 \times 11} = \frac{5}{44}$
- (h) $\frac{6}{18} \times \frac{3}{11} \times \frac{22}{4} = \frac{6 \times 22}{6 \times 4 \times 11} = \frac{2}{4} = \frac{1}{2}$
- (i) $1\frac{1}{3} \times 4\frac{3}{2} \times \frac{1}{3} = \frac{4}{3} \times \frac{11}{2} \times \frac{1}{3} = 2\frac{4}{9}$
3. (a) $8\frac{12}{17}$ by $17 = \frac{148}{17} \times 17 = 148$
- (b) $4\frac{8}{9}$ by $3 = \frac{44}{9} \times 3 = \frac{44}{3} = 14\frac{2}{3}$
- (c) $7\frac{8}{9}$ by $0 = 0$
- (d) $1\frac{1}{9}$ by $12 = \frac{10}{9} \times 12 = \frac{40}{3} = 13\frac{1}{3}$
- (e) $3\frac{2}{4}$ by $8 = \frac{14}{4} \times 8 = 14 \times 2 = 28$
- (f) $4\frac{6}{9}$ by $27 = \frac{42}{9} \times 27 = 42 \times 3 = 126$
- (g) $2\frac{4}{7}$ by $\frac{2}{8} = \frac{18}{7} \times \frac{2}{8} = \frac{9}{7 \times 2} = \frac{9}{14}$
- (h) $8\frac{7}{9}$ by $\frac{3}{4} = \frac{79}{9} \times \frac{3}{4} = \frac{79}{12} = 6\frac{7}{12}$
- (i) $9\frac{6}{8}$ by $\frac{16}{5} = \frac{78}{8} \times \frac{16}{5} = \frac{78 \times 2}{5} = \frac{156}{5} = 31\frac{1}{5}$
- (j) $1\frac{7}{12}$ by $\frac{24}{7} = \frac{19}{12} \times \frac{24}{7} = \frac{38}{7} = 5\frac{3}{7}$
- (k) $4\frac{1}{5}$ by $\frac{15}{12} = \frac{21}{5} \times \frac{15}{12} = \frac{7 \times 3}{4} = \frac{21}{4} = 5\frac{1}{4}$
- (l) $1\frac{2}{3}$ by $4\frac{1}{2} = \frac{5}{3} \times \frac{9}{2} = \frac{5 \times 3}{2} = \frac{15}{2} = 7\frac{1}{2}$
4. (a) $\frac{7}{12} \times \frac{2}{7} = \frac{1}{6}$
- (b) $\frac{5}{13} \times \frac{8}{10} = \frac{4}{13}$
- (c) $\frac{8}{10} \times \frac{15}{2} = \frac{4 \times 3}{2} = 6$
- (d) $\frac{5}{3} \times \frac{12}{15} = \frac{4}{3} = 1\frac{1}{3}$
- (e) $\frac{2}{7} \times \frac{7}{10} \times \frac{4}{9} = \frac{2 \times 4}{10 \times 9} = \frac{4}{45}$
- (f) $\frac{4}{5} \times \frac{5}{12} \times \frac{3}{4} = \frac{12}{12 \times 4} = \frac{1}{4}$
- (g) $\frac{2}{6} \times \frac{6}{18} \times \frac{9}{17} = \frac{1}{17}$
- (h) $\frac{9}{8} \times \frac{8}{6} = \frac{9}{6} = \frac{3}{2} = 1\frac{1}{2}$
- (i) $\frac{4}{5} \times \frac{9}{17} = \frac{36}{85}$

$$5. (a) 4 \frac{1}{5} \times 5 \frac{1}{6} = \frac{21}{5} \times \frac{31}{6} = \frac{651}{30}$$

$$= \frac{217}{10} = 21 \frac{7}{10}$$

$$(b) 2 \frac{1}{4} \times 5 \frac{2}{3} = \frac{9}{4} \times \frac{17}{3} = \frac{51}{4}$$

$$= 12 \frac{3}{4}$$

$$(c) 4 \frac{5}{3} \times 4 \frac{1}{4} = \frac{17}{3} \times \frac{17}{4} = \frac{289}{12}$$

$$= 24 \frac{1}{12}$$

$$(d) 1 \frac{4}{5} \times 2 \frac{1}{5} = \frac{9}{5} \times \frac{11}{5} = \frac{99}{25}$$

$$= 3 \frac{24}{25}$$

$$(e) 2 \frac{7}{9} \times 3 \frac{2}{5} = \frac{25}{9} \times \frac{17}{5} = \frac{85}{9}$$

$$= 9 \frac{4}{9}$$

$$(f) 3 \frac{1}{7} \times 3 \frac{2}{5} = \frac{22}{7} \times \frac{17}{5} = \frac{374}{35}$$

$$= 10 \frac{24}{35}$$

$$(g) 2 \frac{1}{3} \times 4 \frac{3}{4} = \frac{7}{3} \times \frac{19}{4} = \frac{133}{12}$$

$$= 11 \frac{1}{12}$$

$$(h) 5 \frac{6}{5} \times 2 \frac{4}{5} = \frac{31}{5} \times \frac{14}{5} = \frac{434}{25}$$

$$= 17 \frac{9}{25}$$

$$(i) 3 \frac{2}{6} \times 17 \frac{1}{4} = \frac{20}{6} \times \frac{69}{4}$$

$$= \frac{5 \times 23}{2} = \frac{115}{2} = 57 \frac{1}{2}$$

$$6. (a) 4 \frac{1}{2} \times \frac{15}{7} \times 2 \frac{1}{3} = \frac{9}{2} \times$$

$$\frac{15}{7} = \frac{7}{3} = \frac{45}{2} = 22 \frac{1}{2}$$

$$(b) 3 \frac{4}{8} \times 2 \frac{2}{3} \times 4 \frac{7}{5} = \frac{28}{8} \times$$

$$\frac{8}{3} \times \frac{27}{5} = \frac{28 \times 9}{5} = \frac{252}{5} = 50 \frac{2}{5}$$

$$(c) 1 \frac{1}{2} \times 5 \frac{4}{10} = \frac{3}{2} \times \frac{54}{10}$$

$$= \frac{27 \times 3}{10} = \frac{81}{10} = 8 \frac{1}{10}$$

$$(d) 15 \frac{3}{5} \times 5 \frac{1}{2} \times 2 \frac{1}{3} = \frac{78}{5} \times \frac{11}{2}$$

$$\times \frac{7}{3} = \frac{13 \times 77}{5} = \frac{1001}{5} = 200 \frac{1}{5}$$

$$(e) 4 \frac{1}{9} \times 7 \frac{1}{3} \times 5 \frac{1}{7} = \frac{37}{9} \times \frac{22}{3} \times$$

$$\frac{36}{7} = \frac{37 \times 22 \times 4}{21} = \frac{3256}{21} = 155 \frac{1}{21}$$

$$(f) 25 \frac{1}{3} \times 48 \frac{3}{4} \times 30 \frac{1}{2} = \frac{76}{3} \times$$

$$\frac{195}{4} = \frac{61}{2} = \frac{19 \times 65 \times 61}{2} = \frac{75335}{2}$$

$$= 37667 \frac{1}{2}$$

Exercise- 6.7

1. The cost of one toffee = ₹1 $\frac{1}{5}$

The cost of 985 toffees = $\frac{6}{5} \times 985$

$$= ₹ 1182$$

2. One bag contains rice = $45 \frac{1}{2}$ kg

$$= \frac{91}{2} \text{ kg}$$

So 15 such bags contain rice

$$= \frac{91}{2} \times 15 = 682 \frac{1}{2} \text{ kg}$$

3. Sonu invested the amount = $\frac{4}{5} \times$

Annual Income = $\frac{4}{5} \times 25000$

$$₹ = 20,000$$

So, Sonu invested 20,000 in provident fund.

4. The cost of 1 kg of apples

$$= ₹ 15 \frac{3}{4} = \frac{63}{4}$$

Then, the cost of 19 kg of apples

$$= \frac{63}{4} \times (19 \frac{1}{4}) = \frac{63}{4} \times \frac{77}{4} = \frac{4851}{16}$$

$$= 303 \frac{3}{16}$$

Exercise- 6.8

5. The amount spent by the man = $\frac{5}{10}$
of the money = $\frac{5}{10} \times 49 \frac{1}{2} = \frac{5}{10}$
 $= 49 \frac{1}{2} = \frac{5}{10} \times \frac{99}{2} = ₹ 24.75$

6. No of days in the month of february 2008 = 29
David's one day income = $₹ 90 \frac{3}{4}$

$$= \frac{363}{4}$$

$$\text{David's 29 days income} = \frac{363}{4} \times 29 \\ = ₹ 2631.75$$

7. The area of a rectangular plot =
length $\times$ breadth
 $= (50 \frac{1}{3}) \times (40 \frac{5}{6}) = \frac{151}{3} \times \frac{245}{6}$
 $= 36995 = 2055 \frac{5}{18} \text{ m}^2$

8. Distance travelled by Milton in 1
hour = $1 \frac{1}{2}$

$$\text{Distance travelled by Milton in} \\ = \frac{3}{4} \text{ hour} = \frac{3}{2} \times \frac{3}{4} \text{ km} = \frac{9}{8} \text{ km}$$

9. The weight of one banana = 100 gm
The weight of 12 bananas = $100 \times 12 = 1200 \text{ gm} = 1.2 \text{ kg}$

10. Distance travelled by a man = $\frac{3}{4}$
of total distance = $\frac{3}{4} \times 15 \frac{1}{2} =$
 $\frac{3}{4} \times \frac{31}{2} = \frac{93}{8} = 11 \frac{5}{8} \text{ km}$

11. The area of field used for growing vegetables

$$= 5 \frac{1}{4} \text{ of the field} = \frac{21}{4} \times 3 \frac{1}{2} \\ = \frac{21}{4} \times \frac{7}{2} = \frac{147}{8} = 18 \frac{3}{8} \text{ hectare}$$

1. Divide :

$$(a) 3 \frac{3}{4} \div 2 = \frac{15}{4} \times \frac{1}{2} = \frac{15}{8} = 1 \frac{7}{8}$$

$$(b) \frac{21}{25} \div 8 = \frac{21}{25} \times \frac{1}{8} = \frac{21}{200}$$

$$(c) 12 \frac{2}{3} \div 17 = \frac{38}{3} \times \frac{1}{17} = \frac{38}{51}$$

$$(d) 25 \div \frac{3}{4} = 25 \times \frac{4}{3} \times \frac{100}{3} = 33 \frac{1}{3}$$

$$(e) 45 \div \frac{3}{4} = 45 \times \frac{4}{3} = 60$$

$$(f) 200 \div 45 \frac{3}{16} = 200 \times \frac{723}{16}$$

$$= 200 \times \frac{16}{723} = \frac{3200}{723} = 4 \frac{308}{723}$$

$$(g) 95 \div 3 \frac{2}{6} = 95 \div \frac{20}{6} = 95 \times \frac{6}{20} \\ = \frac{570}{20} = 28 \frac{1}{2}$$

$$(h) 48 \div 4 \frac{2}{3} = 48 \div \frac{14}{3} = 48 \times \frac{3}{14} \\ = \frac{72}{7} = 10 \frac{2}{7}$$

$$(i) 50 \div 2 \frac{5}{10} = 50 \div \frac{25}{10} = 50 \times \frac{10}{25} \\ = 20$$

$$(j) 16 \frac{4}{9} \div 12 = \frac{148}{9} \times \frac{1}{12} \\ = \frac{37}{27} = 1 \frac{10}{27}$$

$$(k) 45 \frac{19}{31} \div 16 = \frac{1414}{31} \times \frac{1}{16} \\ = \frac{1414}{496} = 2 \frac{211}{248}$$

$$(l) 8 \frac{2}{3} \div 12 \frac{26}{3} \div 12 = \frac{26}{3} \times \frac{1}{12} \\ = \frac{26}{36} = \frac{13}{18}$$

2. Solve the following :

$$(a) 4 \frac{4}{5} \div 2 \frac{2}{3} = \frac{24}{5} \div \frac{8}{3} \\ = \frac{24}{5} \times \frac{3}{8} = \frac{9}{5} = 1 \frac{4}{5}$$

$$(b) \frac{7}{9} \div \frac{1}{2} = \frac{7}{9} \times \frac{2}{1} = \frac{14}{9} = 1 \frac{5}{9}$$

$$(c) 8 \frac{4}{7} \div 7 \frac{1}{2} = \frac{60}{7} \div \frac{15}{2}$$

$$= \frac{60}{7} \times \frac{2}{15} = \frac{8}{7} = 1 \frac{1}{7}$$

$$(d) 12 \frac{2}{3} \div \frac{10}{11} = \frac{38}{3} \times \frac{11}{10} = \frac{209}{15}$$

$$= 13 \frac{14}{15}$$

$$(e) \frac{7}{13} \div 2 \frac{1}{5} = \frac{7}{13} \div \frac{11}{5}$$

$$\frac{7}{13} \times \frac{5}{11} = \frac{35}{143}$$

$$(f) \frac{3}{4} \div 1 \frac{1}{5} = \frac{3}{4} \div \frac{6}{5}$$

$$= \frac{3}{4} \times \frac{5}{6} = \frac{5}{8}$$

$$(g) 6 \frac{1}{4} \div 1 \frac{1}{5} = \frac{25}{4} \div \frac{6}{5}$$

$$= \frac{25}{4} \times \frac{5}{6} = \frac{125}{24} = 5 \frac{5}{24}$$

$$(h) \frac{7}{13} \div \frac{1}{5} = \frac{7}{13} \times \frac{5}{1} = \frac{35}{13}$$

$$= 2 \frac{9}{13}$$

$$(i) \frac{5}{8} \div 3 \frac{1}{5} = \frac{5}{8} \div \frac{16}{5}$$

$$= \frac{5}{8} \times \frac{5}{16} = \frac{25}{128}$$

$$(j) 6 \frac{1}{3} \div \frac{2}{5} = \frac{19}{3} \times \frac{5}{2} = \frac{95}{6}$$

$$= 15 \frac{5}{6}$$

$$(k) \frac{3}{9} \div 1 \frac{1}{2} = \frac{3}{9} \div \frac{3}{2}$$

$$= \frac{3}{9} \times \frac{2}{3} = \frac{2}{9}$$

$$(l) \frac{5}{9} \div \frac{7}{11} = \frac{5}{9} \times \frac{11}{7} = \frac{55}{63}$$

Exercise- 6.9

1. David had = ₹ 500

$$\text{He gave to Marie} = \frac{2}{5}$$

$$\text{Marie had} = 500 \times \frac{2}{5} = ₹ 200$$

$$\text{David} = 500 - 200 = ₹ 300$$

2. Greatest 3 digit number = 999

$$= 999 \times \frac{1}{9} = 111$$

3. Oil tank has = $54 \frac{2}{3}$ liter oil

$$\text{Sold oil} = \frac{164}{3} \times \frac{3}{4} = 41 \text{ litre}$$

$$\text{Remaining} = \frac{164}{3} - \frac{41}{1} = \frac{123}{3}$$

$$\text{Oil} = \frac{123}{3} = 41 \text{ litre}$$

4. $10 \frac{2}{3} \div 5 = \frac{32}{3} \times \frac{1}{5} = \frac{32}{15} = 2 \frac{2}{15} \text{ m}$

5. $x \times \frac{2}{3} = 600 = \frac{2}{3} x = 600$

$$x = \frac{600 \times 3}{2} = ₹ 900$$

6. $42 \div \frac{7}{8} = 42 \times \frac{8}{7} = 48 \text{ students}$

7. Soldier has cartridges = 90

$$\text{Find} = \frac{8}{9} \text{ of } 90 = 90 \times \frac{8}{9} = 80$$

$$\text{Remains} = 90 - 80 = 10$$

8. $44 \div (1 - \frac{3}{4}) = 44 \times 4 = 176 \text{ pages}$

9. How many halves are there in :

$$(a) 9 \frac{1}{2} = \frac{19}{2} \times \frac{2}{1} = 19$$

$$(b) 18 \div \frac{1}{2} = \frac{18 \times 2}{1} = 36$$

$$(c) \frac{126}{12} \div \frac{1}{2} = \frac{126}{12} \times \frac{2}{1} = 21$$

$$(d) \frac{9}{2} \div \frac{1}{2} = \frac{9}{2} \times \frac{2}{1} = 9$$

10. How many $\frac{1}{5}$ are there in :

(a) $10 \div \frac{1}{5} = \frac{10 \times 5}{1} = 50$

(b) $15 \div \frac{1}{5} = \frac{15 \times 5}{1} = 75$

(c) $28 \frac{1}{5} = \frac{14}{5} \div \frac{1}{5} = \frac{141}{5} \times \frac{1}{5} = 141$

(d) $\frac{2}{5} \div \frac{1}{5} = \frac{2}{5} \times \frac{5}{1} = 2$

Multiple Choice Question

- in $\frac{2}{3}$ numerator is (a) 2
- in proper (d) $\frac{17}{14}$
- Equivalent pairs (c) $\frac{4}{3}$ and $\frac{8}{6}$
 $= \frac{4}{3} = \frac{8}{6}$
- Compare $= \frac{2}{7} < \frac{8}{17}$ (a) <
- $\frac{7}{5} + \frac{8}{12} = \frac{84 + 40}{60} = \frac{124}{60} = 2 \frac{4}{60}$
 $= 2 \frac{1}{15}$

7 Number Pattern

Exercise- 7.0

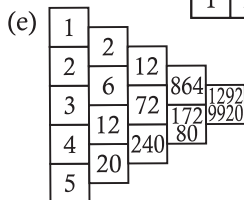
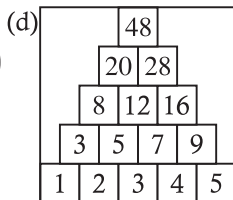
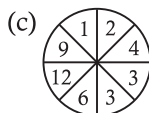
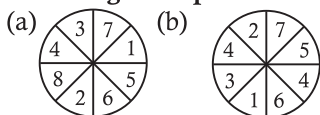
- Fill in the missing numbers according to the pattern :

- (a) 1, 2, 4, 6, — **8, 10, 12**
 (b) 5, 11, 17, 23 — **29, 35, 41**
 (c) 100, 91, 82, 73 — **64, 55, 46**
 (d) 11, 21, 31, 41 — **51, 61, 71**

- Write the next numbers in the boxes according to the pattern :

- (a) 1, 3, 5, **7, 9, 11**
 (b) 2, 9, 16, **23, 30, 37**
 (c) 50, 42, 34, **26, 18, 10**
 (d) 91, 81, 71, **61, 51, 41**

- Fill in the missing number according to the pattern :



- Study the numbers in the table and fill the appropriate number so that the sum of 3 of the numbers in three different ways is the same :

9	10	5
4	8	(12)
11	(6)	7

- Find the rule and use it to find the next three multiplications :

$$1 \times 11 = 11$$

$$11 \times 11 = 121$$

$$111 \times 111 = 1221$$

- (a) $111 \times 11 = 1221$
 (b) $11111 \times 11 = 122221$
 (c) $111111 \times 11 = 1222221$

Multiple Choice Questions

- 4 8 12 16 20 24 28 32 (c) **16**
- 1 3 9 27 81 (b) **81**
- 3 6 12 24 48 (a) **48**
- 12 18 26 30 36 (b) **36**

8 Time, speed and Distance

Exercise- 8.1

- Add :

(a)
$$\begin{array}{r} 20 \text{ S} \\ + 40 \text{ S} \\ \hline 60 \text{ S} \end{array}$$

 $= 1 \text{ Mint.}$

(b)
$$\begin{array}{r} 55 \text{ S} \\ + 20 \text{ S} \\ \hline 75 \text{ S} \end{array}$$

 $= 1 \text{ Mint.}$
 15 Sec.

$$\begin{array}{r} \text{(c)} \quad \begin{array}{r} 15 \text{ M} \\ + 04 \text{ M} \\ \hline 19 \text{ M} \end{array} \end{array}$$

$$\begin{array}{r} \text{(e)} \quad \begin{array}{r} \text{M} \quad \text{S} \\ 20 \quad 40 \\ + 15 \quad 20 \\ \hline 36 \quad 00 \end{array} \end{array}$$

= 36 Mint. 00 Sec.

$$\begin{array}{r} \text{(g)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 1 \quad 20 \quad 45 \\ + 2 \quad 15 \quad 30 \\ \hline 3 \quad 36 \quad 15 \end{array} \end{array}$$

$$\begin{array}{r} \text{(i)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 25 \quad 25 \quad 10 \\ + 15 \quad 25 \quad 20 \\ \hline 40 \quad 50 \quad 30 \end{array} \end{array}$$

$$\begin{array}{r} \text{(k)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ - \quad 10 \quad 16 \\ + 2 \quad - \quad 14 \\ \hline 2 \quad 10 \quad 30 \end{array} \end{array}$$

$$\begin{array}{r} \text{(m)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 2 \quad 15 \quad 41 \\ + 2 \quad 57 \quad - \\ \hline 5 \quad 12 \quad 41 \end{array} \end{array}$$

2. Subtract :

$$\begin{array}{r} \text{(a)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ \quad 14 \quad 20 \\ - \quad 7 \quad 10 \\ \hline \quad 07 \quad 10 \end{array} \end{array}$$

$$\begin{array}{r} \text{(c)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 2 \quad 40 \quad 10 \\ - 1 \quad 20 \quad 15 \\ \hline 1 \quad 19 \quad 55 \end{array} \end{array}$$

$$\begin{array}{r} \text{(e)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 10 \quad 30 \quad 20 \\ - 8 \quad 35 \quad 25 \\ \hline 1 \quad 54 \quad 55 \end{array} \end{array}$$

$$\begin{array}{r} \text{(g)} \quad \begin{array}{r} \text{M} \quad \text{S} \\ 15 \quad 10 \\ - 12 \quad 15 \\ \hline 2 \quad 55 \end{array} \end{array}$$

$$\begin{array}{r} \text{(d)} \quad \begin{array}{r} 15 \text{ H} \\ + 20 \text{ H} \\ \hline 35 \text{ H} \end{array} \end{array}$$

$$\begin{array}{r} \text{(f)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 1 \quad - \quad 20 \\ + 2 \quad - \quad 45 \\ \hline 3 \quad 1 \quad 05 \end{array} \end{array}$$

$$\begin{array}{r} \text{(h)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 14 \quad 15 \quad 15 \\ + 25 \quad 15 \quad 25 \\ \hline 39 \quad 30 \quad 40 \end{array} \end{array}$$

$$\begin{array}{r} \text{(j)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 15 \quad 10 \quad 2 \\ + 15 \quad 00 \quad 16 \\ \hline 30 \quad 10 \quad 18 \end{array} \end{array}$$

$$\begin{array}{r} \text{(l)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ - \quad 19 \quad 44 \\ + 2 \quad 41 \quad 17 \\ \hline 3 \quad 01 \quad 01 \end{array} \end{array}$$

$$\begin{array}{r} \text{(h)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ \quad 16 \quad 15 \\ - \quad 7 \quad 42 \\ \hline \quad 8 \quad 33 \end{array} \end{array}$$

$$\begin{array}{r} \text{(j)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 5 \quad 00 \quad 00 \\ - 0 \quad 00 \quad 55 \\ \hline 4 \quad 59 \quad 5 \end{array} \end{array}$$

$$\begin{array}{r} \text{(l)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ - \quad 20 \quad 20 \\ - \quad - \quad 35 \\ \hline 19 \quad 45 \end{array} \end{array}$$

$$\begin{array}{r} \text{(i)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 4 \quad 00 \quad 00 \\ - - \quad 35 \quad 00 \\ \hline 3 \quad 25 \quad 00 \end{array} \end{array}$$

$$\begin{array}{r} \text{(k)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 1 \quad - \quad 20 \\ - - \quad 20 \quad 10 \\ \hline 40 \quad 10 \end{array} \end{array}$$

Exercise- 8.2

1. Find :

(a) 17 seconds $\times$ 4 = 68 seconds
= 1 minutes 8 seconds

(b) 50 minutes $\times$ 3 = 150 minutes
= 60 $\times$ 2 + 30 minutes = 2 hours
30 minutes

$$\begin{array}{r} \text{(c)} \quad \begin{array}{r} \text{H} \quad \text{M} \\ 5 \quad 20 \\ \times \quad 4 \\ \hline 20 \quad 80 \end{array} \end{array}$$

$\rightarrow$ Min. = 60 + 20 =
1 hour + 20 Min.

20 + 1 = 21 hours 20 Minutes

$$\begin{array}{r} \text{(d)} \quad \begin{array}{r} \text{H} \quad \text{M} \quad \text{S} \\ 10 \quad 35 \quad 20 \\ \times \quad 4 \\ \hline 40 \quad 140 \quad 80 \end{array} \end{array}$$

$\rightarrow$ = (60 + 20) sec.
 $\rightarrow$ = 2 h + 20 m. + 1 m.
= 1 min. + 20

42 hours + 21 minutes + 20 seconds

$$\begin{array}{r} \text{(e)} \quad \begin{array}{r} \text{h} \quad \text{m} \quad \text{s} \\ 10 \quad 40 \quad 10 \\ \times \quad 8 \\ \hline 80 \quad 320 \quad 80 \end{array} \end{array}$$

$\rightarrow$ = (60 + 20) =
1 m. + 20 sec
 $\rightarrow$ 5 h. + 20 m.

85 hours 21 minutes 20 seconds

$$\begin{array}{r}
 \text{(f)} \quad \begin{array}{ccc} \text{h} & \text{m} & \text{s} \\ 2 & 40 & 15 \\ & \times & 7 \\ \hline 14 & 280 & 105 \end{array} \\
 \begin{array}{c} \downarrow \\ 18 \text{ hours} \end{array} \quad \begin{array}{c} \downarrow \\ 41 \text{ minutes} \end{array} \quad \begin{array}{c} \downarrow \\ 45 \text{ sec} \end{array} \\
 \text{18 hours 41 minutes + 41 seconds}
 \end{array}$$

2. Divide :

$$\begin{array}{r}
 \text{(a)} \quad \begin{array}{cc} \text{M} & \text{S} \\ 2 \overline{) 40 \quad 20} & (20 \text{ min.} - 10 \text{ sec.} \\ \underline{4} & \\ 0 & \\ \underline{0} & \\ & 2 \\ & \underline{2} \\ & 0 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad \begin{array}{cc} \text{H} & \text{M} \\ 4 \overline{) 13 \quad 20} & (3 \text{ hours } 20 \text{ min.} \\ \underline{12} & \\ 1 & \Rightarrow 60 + 20 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad \begin{array}{ccc} \text{H} & \text{M} & \text{S} \\ 3 & 6 & 2 \\ 5 \overline{) 15 \quad 30 \quad 10} & & \\ \underline{15} & \downarrow & \downarrow \\ & 5 \overline{) 30} & 5 \overline{) 10} \\ \underline{30} & & \underline{10} \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad \begin{array}{ccc} \text{H} & \text{M} & \text{S} \\ 3 & 16 & 2 \\ 6 \overline{) 19 \quad 36 \quad 12} & & \\ \underline{18} & & \downarrow \\ 1 & \Rightarrow 60 + 36 & \\ & 6 \overline{) 96} & 6 \overline{) 12} \\ \underline{6} & & \underline{12} \\ & 36 & \underline{36} \\ & \underline{36} & \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(e)} \quad \begin{array}{ccc} \text{H} & \text{M} & \text{S} \\ 2 & 4 & 5 \\ 4 \overline{) 8 \quad 16 \quad 20} & & \\ \underline{8} & \downarrow & \downarrow \\ & 4 \overline{) 16} & 4 \overline{) 20} \\ \underline{16} & & \underline{20} \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad \begin{array}{ccc} \text{H} & \text{M} & \text{S} \\ 4 & 2 & 9 \\ 7 \overline{) 28 \quad 15 \quad 3} & & \\ \underline{28} & \downarrow & \downarrow \\ & 7 \overline{) 15} & 7 \overline{) 63} \\ \underline{14} & & \underline{63} \\ 1 & \Rightarrow 60 + 3 & \end{array}
 \end{array}$$

Exercise- 8.3

1. Convert the speed in m/sec :

$$\begin{aligned}
 \text{(a)} \quad 15 \text{ km/h} &= \frac{15 \text{ km/h}}{1 \text{ h}} \\
 &= \frac{15 \times 1000 \text{ m}}{1 \times 60 \times 60} = \frac{50}{12} = \frac{25}{6} \\
 &= 4 \frac{1}{6} \text{ m/sec}
 \end{aligned}$$

$$\begin{aligned}
 \text{(b)} \quad 1000 \text{ m/3 minutes} &= \frac{1000 \text{ m}}{3 \text{ min}} \\
 &= \frac{1000}{3 \times 60} = \frac{1000}{180} = \frac{50}{9} = 5 \frac{5}{9} \text{ m/s} \\
 &= 5.55 \text{ m/sec}
 \end{aligned}$$

2. In 2 hours a man run = 17 km

$$\begin{aligned}
 \text{In 1 hours run} &= \frac{17}{2} = 8.5 \text{ km} \\
 &= \frac{8.5 \text{ km}}{\text{h}} = \frac{8.5 \times 1000 \text{ m}}{60 \times 60} = \frac{42.5}{3 \times 6} \\
 &= 2.361 \text{ m/sec}
 \end{aligned}$$

3. Find

$$\begin{aligned}
 \text{distance} &= \text{speed} \times \text{time} \\
 &= 400 \times 40 = 16000 \text{ m} = 16 \text{ km}
 \end{aligned}$$

$$4. \text{ Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{840}{105} = 8 \text{ hours}$$

5. Express the following as per to 24 hours clock :

- (a) 1 : 15 a.m. = 0114 hours
 (b) 12 : 20 a.m. = 1220 hours
 (c) 9 : 20 p.m. = 2120 hours
 (d) 10 : 30 p.m. = 2230 hours
 (e) 6 : 30 p.m. = 1830 hours
 (f) 11 : 45 a.m. = 1145 hours

6. Speed = 45 km/h

$$\text{time} = 32 \text{ minutes} = \frac{32}{60}$$

$$\text{Distance} = \text{speed} \times \text{time}$$

$$= 45 \times \frac{32}{60} = 240 \text{ km} = \frac{1440}{60}$$

$$= 24 \text{ km}$$

7. Distance = 70 km

$$\text{time} = 2 \frac{1}{2} = \frac{5}{2} \text{ hours}$$

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} = \frac{70 \times 2}{5} = \frac{140}{5}$$

$$= 28 \text{ km/h}$$

8. Distance = 6 km

$$\text{Time} = 4 \frac{1}{2} = \frac{9}{2}$$

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} = \frac{6 \times 2}{9} = \frac{12}{9}$$

$$= \frac{4}{3} = 1 \frac{1}{3} = 1.33 \text{ km/h}$$

$$9. \text{ Time} = \frac{\text{Distance}}{\text{Time}} = \frac{115.5 \text{ km}}{60 \text{ h}}$$

$$= \frac{11.5.5}{60} = 1 \text{ h } 55 \text{ min } 30 \text{ sec.}$$

10. 2015 hours correct in to 12 hours = 8 : 15 p.m.

11. 20 km travel in = 3 hours

$$1 \text{ km travel} = \frac{3}{20}$$

$$15 \text{ km in} = \frac{3}{20} \times 15^3$$

$$= \frac{9}{4} = 2 \frac{1}{4} (60 \times \frac{1}{4}) = 15 = 2.15$$

Exercise- 8.4

1. Fill in the blanks :

(a) Speed = 45 km/h

Time = 3 hours

$$\text{Distance} = \text{speed} \times \text{time}$$

$$= 45 \times 3 = 135 \text{ km}$$

(b) Speed = 60 km/h D=180 km

$$\text{time} = \frac{\text{Distance}}{\text{Speed}} = \frac{180}{60} = 3 \text{ hours}$$

(c) Speed = 18 km/h

Time = 6 hours

$$\text{Distance} = 18 \times 6 = 108 \text{ km}$$

(d) Speed = 36 km/h

Distance = 720 km

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{720}{36} = 20 \text{ h.}$$

2. Cycle speed = 24 km/h

Distance = 120 km

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{120}{24} = 5 \text{ h.}$$

3. Distance = 280 km

Speed = 40 km/h

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{280}{40} = 7 \text{ h.}$$

4. Speed of car = 70 km/h

Time = 4 hours

$$\text{Distance} = \text{speed} \times \text{time} = 70 \times 4 = 280 \text{ km}$$

5. Distance = speed $\times$ time

$$= 60 \times 2 \frac{1}{2} = 60 \times \frac{5}{2} = 150 \text{ km}$$

6. Time = 3 hours

Speed = 90 km/h

$$\text{Distance} = \text{time} \times \text{speed}$$

$$= 3 \times 90 = 270 \text{ km}$$

7. Speed of a girl = 3 km/h

$$\text{Time} = 45 \text{ Minutes} = \frac{45}{60} = \frac{3}{4} \text{ hours}$$

$$\text{Distance} = \text{speed} \times \text{time}$$

$$= 3 \times \frac{3}{4} = \frac{9}{4} = 2 \frac{1}{4} \text{ km} = 2.25 \text{ km}$$

Multiple Choice Questions

1. (b) 2. (d) 3. (c) 4. (b) 5. (b)

9. Average

Exercise- 9

1. Find the average of the following :

- (a) Average = $\frac{\text{Sum of Numbers}}{\text{Total number of item}}$
 $= \frac{15+20+16+18+11}{5} = \frac{80}{5} = 16$
- (b) $A = \frac{5+10+6+8+6}{5} = \frac{35}{5} = 7$
- (c) $A = \frac{25+50+75+100+125}{5}$
 $\frac{375}{5} = 75$
- (d) $A = \frac{6.3+5.2+4.8+4.5+6.7}{5}$
 $\frac{27.5}{5} = 5.5$
- (e) $A = \frac{100+200+300+400}{4}$
 $\frac{1000}{4} = 250$
- (f) $A = \frac{12+15+18+31}{4} = \frac{76}{4} = 19$
2. Average Runs
 $= \frac{45+25+70+32+43+85}{6} = \frac{300}{6}$
 $= 50$ runs per inning
3. 5 books average price
 $= \frac{25+30+32+43+55}{5} = \frac{185}{5} = ₹37$
4. Average of 5 boys age
 $= \frac{15+20+23+12+10}{5} = \frac{80}{5} = 16$ years
5. Four students marks average
 $= \frac{49+56+64+66}{4} = \frac{235}{4} = 58.75$
6. Average 4 numbers is = 24
 $= \frac{x+12+26+34}{4} = 24$
 $x + 72 = 4 \times 24, x = 96 - 72, x = 24$
 fourth number is 24
7. 15 students height = 124 m
 Total = $15 \times 124 = 1860$ cm
 15 students height = $15 \times 120 =$

1800 cm

$$\text{Average} = \frac{1860+1800}{30} = \frac{3660}{30}$$

$$= 122 \text{ cm}$$

8. Average weight of 6 bags = 48

$$\text{Total weight} = 48 \times 6 = 288 \text{ kg}$$

9. Average first five multiple of 3

$$= \frac{3+6+9+12+15}{5} = \frac{45}{5} = 9$$

$$10. \text{Average} = \frac{7+77+777+7777+77777}{5}$$

$$= \frac{86415}{5} = 17283$$

$$11. \text{Average Area} = \frac{150+144+126 \text{ m}^2}{3}$$

$$= \frac{420}{3} = 140 \text{ m}^2$$

12. 1 to 21 even number

Average

$$= \frac{2+4+6+8+10+12+14+16+18+20}{10}$$

$$= \frac{110}{10} = 11$$

13. 3 numbers average = 25

$$\text{sum} = 25 \times 3 = 75$$

$$2 \text{ number} = 24 + 26 = 50$$

$$\text{Third number} = 75 - 50 = 25$$

14. 10 number average = 13

$$10 \text{ numbers sum} = 13 \times 10 = 130$$

$$\text{Sum of nine numbers} = 122$$

$$\text{Tenth of nine numbers} = 8$$

$$15. (a) \frac{1}{4} + \frac{1}{3} + \frac{1}{6} + \frac{1}{2} \quad \begin{array}{c} 2|4, 3, 6, 2 \\ 2|2, 3, 3, 1 \\ 3|1, 3, 3, 1 \\ \hline 1, 1, 1, 1 \end{array}$$

$$= \frac{3+4+2+6}{12}$$

$$\text{Avg} = \frac{15}{12} \div \frac{4}{1} \quad 2 \times 2 \times 3 = 12$$

$$\text{Avg} = \frac{15}{12} \times \frac{1}{4} = \frac{15}{48} = \frac{5}{16}$$

$$(b) A = \frac{3.1+2.8+3.4+2.5}{4} = \frac{11.8}{4}$$

$$= 2.95$$

$$(c) \frac{1}{5} + \frac{2}{5} + \frac{3}{5} + \frac{4}{5} = \frac{1+2+3+4}{5}$$

$$= \frac{10}{5} \div 4 = \frac{10}{5} \times \frac{1}{4} = \frac{10}{20} = \frac{1}{2}$$

$$(d) A = \frac{2.1+2.2+2.3+2.4+2.5}{5} \\ = \frac{11.5}{5} = 2.3$$

$$16. (a) A = \frac{60+72+92+88+78}{5} \\ = \frac{390}{5} = 78$$

(b) Higher subject maths and science

$$17. \text{Total distance} = 10 + 10 = 20 \text{ km} \\ \text{Total time taken} = 1.5 + 2 = 3.5 \text{ h} \\ \text{Average speed of tonga} \\ = \frac{\text{Distance}}{\text{Time}} = \frac{20}{3.5} = 5.714 \text{ km/h}$$

Multiple Choice Questions

1. (b) 2. (a) 3. (c) 4. (a) 5. (c)

10. Ratio and Proportion

Exercise- 10.1

1. Find the ratio :

(a) $50 : 175 = 50 : 175 = 2 : 7$ (b) 2 m to 10 c, $200 \text{ cm to } 10 \text{ cm} = 200 : 10 = 20 : 1$ cm (c) $250 \text{ gm to } 1 \text{ kg} = 250 : 1000 = 1 : 4$ (d) 25 p to ₹ 2 = $25 : 200 = 1 : 8$ (e) 25 days to 2 year = $25 : 730 = 5 : 146$ (f) $50 \text{ ml to } 5 \text{ l} = 50 : 5000 = 1 : 100$ (g) 20 seconds to 3 minutes = $20 : 180 = 1 : 9$ (h) 4 hours to 55 minutes = $240 : 55 = 48 : 11$ (i) 4 days to 1 week = $4 : 7$ (j) 2 km to 500 m $2000 : 500 = 4 : 1$

2. 15 girls and 45 boys

(a) $15 : 45 = 1 : 3$ (b) $45 : 15 = 3 : 1$ (c) $15 : 60 = 1 : 4$

$$3. \frac{4.98}{7.68} = \frac{498}{768} = \frac{294}{384} = \frac{83}{128} \\ = 83 : 128$$

$$4. 15 : 20 = 3 : 4$$

5. Cost of pen = 25.50
Cost pencil = 15.50

$$(a) \frac{15.50}{25.50} = \frac{31}{51} = 31 : 51$$

$$(b) \frac{25.50}{15.50} = \frac{51}{31} = 51 : 31$$

$$(c) \frac{15.50}{41} = \frac{31}{82} = 31 : 82$$

6. Total students = 2500

Boys = 1900

Girls = 600

(a) boys to girls = $1900 : 600 = 19 : 6$

(b) Ratio girl to boys = 600 :

$$1900 = \frac{600}{1900} = 6 : 19$$

$$(c) 600 : 2500 = \frac{600}{2500} = 6 : 25$$

7. Cement and sand mixture = 276 kg

weight of cement = 52 kg

weight of sand = 224 kg

Ratio of cement to sand = 52 :

$$224 = 13 : 56$$

8. Ratio of milk and water = 5 : 6

$$\text{Sum} = 5 + 6 = 11$$

both mixture = 550 ml

$$\text{quantity of water} = \frac{6}{11} \times \frac{50}{550} \\ = 300 \text{ ml}$$

9. Total back in library = 3600

Ratio book bound and unbound = 5 : 13

$$\text{Sum} = 5 + 13 = 18$$

$$\text{Total bound book} = \frac{5}{18} \times \frac{200}{3600} \\ = 1000$$

10. Total fruits in basket = 440

Ratio of apples to mangoes = 5 : 6

$$\text{sum} = 5 + 6 = 11$$

$$\text{Mangoes in basket} = \frac{6}{11} \times \frac{40}{440} \\ 240 \text{ mangoes}$$

11. Ratio cost of pen pencil = 31 : 51

$$\text{sum} = 31 + 51 = 82$$

Total cost pen and pencils = ₹ 41

$$\text{Cost of pen only} = \frac{31}{82} \times 41 \\ = ₹ 15.50$$

12. Ratio of milk and water = 5 : 2

$$\text{Sum} = 5 + 2 = 7$$

Total weight m+w = 28 kg

$$\text{Only water} = \frac{2}{7} \times \frac{4}{28} = 8 \text{ kg}$$

Exercise- 10.2

1. Which of the following are in proportion :

- (a) $2 : 3 = 6 : 9 \Rightarrow 2 : 3 = 2 : 3$ Yes proportion
 (b) $4 : 5 = 8 : 10 \Rightarrow 4 : 5 = 4 : 5$ Yes proportion
 (c) $7 : 8 = 28 : 32 \Rightarrow 7 : 8 = 7 : 8$ Yes proportion
 (d) $1 : 5 = 5 : 20 \Rightarrow 1 : 5 \neq 1 : 4$ Not proportion
 (e) $7 : 9 = 21 : 27 \Rightarrow 7 : 9 = 7 : 9$ Yes proportion
 (f) $2 : 7 = 10 : 20 \Rightarrow 2 : 7 \neq 2 : 4$ Not proportion
 (g) $3 : 4 = 10 : 12 \Rightarrow 3 : 4 \neq 5 : 6$ Not proportion
 (h) $2 : 3 = 8 : 16 \Rightarrow 2 : 3 \neq 1 : 2$ Not proportion

2. Find the extremes in the following proportions :

- (a) $1 : 2 = 3 : 6$
 Extreme $L = 1$ $P = 6$
 (b) $2 : 3 = 8 : 12 \Rightarrow L = 2$ $P = 12$
 (c) $4 : 5 = 12 : 15 \Rightarrow L = 4$ $P = 15$
 (d) $2 : 7 = 8 : 28 \Rightarrow L = 2$ $P = 28$
 (e) $20 : 30 :: 40 : 60 \Rightarrow L = 20$ $P = 60$

3. Fill in the blanks :

- (a) $3 : x = 12 : 4 \Rightarrow x \times 12 = 3 \times 4$

$$x = \frac{3 \times 4}{12} = \frac{12^1}{12} = 1 \Rightarrow x = 1$$

$$(b) x : 6 = 12 : 9 \Rightarrow x \times 9 = 6 \times 3$$

$$(c) x = \frac{6 \times 3}{9} = \frac{18^2}{9} = 2 \Rightarrow x = 2$$

$$(c) 7 : x = 49 : 56 \Rightarrow 49 \times x = 7 \times 56$$

$$x = \frac{7 \times 56}{49} \Rightarrow x = 8$$

$$(d) 72 : 9 = x : 5 \Rightarrow 9 \times x = 72 \times 5$$

$$x = \frac{72 \times 5}{9} \Rightarrow x = 40$$

$$(e) x : 4.5 = 1.08 : 3.6$$

$$x \times 3.6 = 4.5 \times 1.08$$

$$x = \frac{4.5 \times 1.08}{3.6} = 1.35$$

4. Ratio of lady teacher and male teacher = 3 : 5

Male teacher = 30

Lady teacher = x

$$3 : 5 = x : 30 = 5 \times x = 3 \times 30$$

$$x = \frac{3 \times 30}{5} = 18$$

5. Ratio of two number = 2 : 3

if $= 16 : x$

$$2 : 3 = 16 : x \Rightarrow 2 \times x = 3 \times 16$$

$$x = \frac{3 \times 16}{2} = 24$$

6. Ratio of male and female = 4:3

Number o female = 1200

Number of male = x

$$4 : 3 = x : 1200$$

$$3 \times x = 4 \times 1200$$

$$x = \frac{4 \times 1200}{3} \Rightarrow x = 1600$$

7. Ratio of length and width = 5:4

Length of ground = 15 metres

width of ground = x

$$5 : 4 = 15 : x \Rightarrow 5 \times x = 4 \times 15$$

$$x = \frac{4 \times 15}{5} = 12 \text{ metre}$$

8. Ratio of milk and water = 18 : 7

milk = 180 ml

water = x

$$18 : 7 = 180 : x$$

$$18 \times x = 7 \times 180$$

$$x = \frac{7 \times 180}{18} = 70 \text{ ml}$$

Multiple Choice Questions

1. (b) 2. (c) 3. (a) 4. (c)

11. Percentage

Exercise- 11.1

1. Change each of the per cents into decimals :

$$(a) .4 \% = \frac{.4}{100} = 0.004$$

$$(b) .025\% = \frac{.025}{100} = .00025$$

$$(c) .45\% = \frac{.45}{100} = .0045$$

$$(d) 14.5\% = \frac{14.5}{100} = 0.145$$

$$\begin{aligned}
 \text{(e)} \quad 35.5\% &= \frac{35.5}{100} = .355 \\
 \text{(f)} \quad \frac{9}{5}\% &= \frac{35.5}{100} = 0.018 \\
 \text{(g)} \quad 4\frac{1}{3}\% &= \frac{13}{300} = 0.04333 \\
 \text{(h)} \quad 15\frac{1}{2}\% &= \frac{31}{2 \times 100} = 0.155 \\
 \text{(i)} \quad 12\frac{4}{7}\% &= \frac{88}{700} = 0.12571 \\
 \text{(j)} \quad 33\frac{1}{3}\% &= \frac{100}{300} = \frac{1}{3} = .333 \\
 \text{(k)} \quad 50\% &= \frac{50}{100} = \frac{1}{2} = 0.5 \\
 \text{(l)} \quad 75\% &= \frac{75}{100} = \frac{3}{4} = .75
 \end{aligned}$$

2. Change each of the decimal into percent :

$$\begin{aligned}
 \text{(a)} \quad \frac{0.03}{100} &= \frac{3}{100} \times 100 = 3\% \\
 \text{(b)} \quad .4 &= \frac{4}{10} \times \frac{10}{100} = 40\% \\
 \text{(c)} \quad 1.02 &= \frac{102}{100} = \frac{102}{100} \times 100 = 102\% \\
 \text{(d)} \quad 12.49 &= \frac{1249}{100} \times 100 = 1249\% \\
 \text{(e)} \quad 10.8 &= \frac{1080}{100} \times 100 = 1080\% \\
 \text{(f)} \quad .005 &= \frac{0.5}{100} \times 100 = 0.5\% \\
 \text{(g)} \quad 1.73 &= \frac{173}{100} \times 100 = 173\% \\
 \text{(h)} \quad 120.65 &= \frac{12065}{100} \times 100 = 12065 \\
 \text{(i)} \quad 7.25 &= \frac{725}{100} \times 100 = 725\% \\
 \text{(j)} \quad 40.8 &= \frac{408}{10} \times 100 = 4080\% \\
 \text{(k)} \quad 225 &= 225 \times 100 = 22500\% \\
 \text{(l)} \quad 75 &= 7500\%
 \end{aligned}$$

3. Express each of the following into fractions :

$$\text{(a)} \quad 40\% = \frac{40}{100} = \frac{2}{5}$$

$$\text{(b)} \quad 15\% = \frac{15}{100} = \frac{3}{20}$$

$$\text{(c)} \quad 25\% = \frac{25}{100} = \frac{1}{4}$$

$$\text{(d)} \quad 1.50\% = \frac{150}{10000} = \frac{150}{10000} = \frac{3}{200}$$

$$\text{(e)} \quad 33\frac{1}{3}\% = \frac{100}{300} = \frac{1}{3}$$

$$\text{(f)} \quad 101\% = \frac{101}{100}$$

$$\text{(g)} \quad \frac{6}{5}\% = \frac{6}{500} = \frac{3}{250}$$

$$\text{(h)} \quad 125\% = \frac{125}{100} = \frac{5}{4} = 1\frac{1}{4}$$

$$\text{(i)} \quad 5\frac{1}{2}\% = \frac{11}{200} = \frac{11}{200}$$

$$\text{(j)} \quad 2\% = \frac{2}{100} = \frac{1}{50}$$

$$\text{(k)} \quad 250\% = \frac{250}{100} = \frac{5}{2} = 2\frac{1}{2}$$

$$\text{(l)} \quad \frac{3}{4}\% = \frac{3}{400}$$

4. Change each of following fractions into per cent :

$$\text{(a)} \quad \frac{9}{10} \times 100 = 90\%$$

$$\text{(b)} \quad \frac{1}{5} \times \frac{20}{100} = 20\%$$

$$\text{(c)} \quad \frac{3}{7} \times 100 = \frac{300}{7} = 44\frac{6}{7}\%$$

$$\text{(d)} \quad 1\frac{1}{2} = \frac{3}{2} \times \frac{50}{100} = 150\%$$

$$\text{(e)} \quad 2\frac{1}{4} = \frac{9}{4} \times \frac{25}{100} = 225\%$$

$$\text{(f)} \quad 33\frac{1}{3} = \frac{100}{3} \times 100 = 3333.3\%$$

$$\text{(g)} \quad 1\frac{9}{20} = \frac{29}{20} \times \frac{5}{100} = 145\%$$

$$\text{(h)} \quad 5\frac{1}{7} = \frac{36}{7} \times 100 = 514.285\%$$

$$\text{(i)} \quad 3\frac{2}{4} = \frac{14}{4} \times \frac{25}{100} = 350\%$$

Exercise- 11.2

1. Change each of the per cents into decimals :

$$\text{(a)} \quad 540 \times \frac{30}{100} = 162$$

$$(b) 700 \times \frac{45}{100} = 315$$

$$(c) 900 \times \frac{75}{100} = 675$$

$$(d) 750 \times \frac{25}{100} = 187.5$$

$$(e) 540 \times \frac{20}{100} = 108$$

$$(f) 520 \times \frac{50}{100} = 260$$

$$(g) 780 \times \frac{10}{100} = 78$$

$$(h) 1250 \times \frac{25}{100} = 312.5$$

$$(i) 4 \times \frac{90}{100} = 3.6$$

$$(j) 400 \times \frac{30}{100} = 120$$

$$(k) 500 \times \frac{5}{100} = 25$$

$$(l) 101 \times \frac{2}{100} = 2.02$$

2. What percentage is :

$$(a) 2 \text{ days of a week} = 28 \frac{4}{7} \% =$$

$$28.57\%$$

$$(b) 25 \text{ paise a rupee} = 25\%$$

$$(c) 25 \text{ cm of } 1 \text{ m} = 25\%$$

$$(d) 450 \text{ of } 1250 = 36\%$$

$$(e) \frac{4}{3} \text{ kg of } 50 \text{ kg} = 2 \frac{2}{3} \%$$

$$(f) 6 \text{ days of a month} = 20\%$$

3. Income of man = 5650

$$\text{He saves } 25\% = \frac{5650 \times 25}{100} =$$

$$\text{Total savings} = ₹1412.5$$

4. Increment = $\frac{3500 \times 10}{100} = 350$

$$\text{In } 2005 \text{ year} \quad 3500$$

$$+ 350$$

$$\text{Total population} \quad \underline{3850}$$

5. $500 \times \frac{40}{100} = 200 \text{ more}$

$$300 \times \frac{50}{100} = 150$$

6. Total orange = $300 \times \frac{60}{100}$

$$\text{Sold orange} = 60\% = 300 \times = 180$$

$$\text{Left orange} = 300 - 180 = 120$$

$$\text{Percentage} = \frac{120}{300} \times 100 = 40\%$$

7. $780 \times \frac{100}{1000} = 78\%$

8. 1 kg = 1000 gm

$$\text{percentage} = 1 \times \frac{100}{1000} = 0.1\%$$

9. $\frac{0.05 \times 100}{5 \times 100} = 1\%$

10. fill in the blanks :

$$(a) 16 \times \frac{75.5}{100} = 12.08$$

$$(b) 300\% \text{ of } 3 (c) 25\% \text{ of } 16 = 4$$

$$(d) 30\% \text{ of } 150 = 45 (e) 250\% \text{ of } 200 = 500 (f) 20\% \text{ of } 35 = 7$$

11. Total jar percentage $\times 100 \frac{4}{5} = 80\%$

12. $55 \times \frac{10}{100} = 5.5 \text{ kg}$

13. $x \times \frac{75}{2} \% + x = 44 \Rightarrow x \times \frac{75}{200} +$

$$x = 44 \frac{3x}{8} + x = 44 \quad 11x = 44 \times 8$$

$$\Rightarrow x = 4 \times 8 = 32$$

14. $x \times \frac{22}{100} = 1980 \Rightarrow 22x = 1980 \times 100$

$$x = 1980 \times \frac{100}{22} \quad x = ₹9000$$

Multiple Choice Questions

$$1. (b) 2. (b) 3. (a) 4. (d) 5. (b)$$

12. Profit and Loss

Exercise- 12.1

1. Find loss or profit when :

$$(a) \text{C. P.} = 450, \text{S. P.} = 220$$

$$\text{Loss} = \text{C. P.} - \text{S. P.}$$

$$= 450 - 220 \Rightarrow \text{Loss} = ₹230$$

$$(b) \text{C. P.} = 20, \text{S. P.} = 550$$

$$\text{Profit} = \text{S. P.} - \text{C. P.}$$

$$= 550 - 20 \Rightarrow ₹530$$

$$(c) \text{C. P.} = 540, \text{S. P.} = 560$$

$$\text{Profit} = \text{S. P.} - \text{C. P.}$$

$$= 560 - 540 \Rightarrow ₹20$$

- (d) C. P. = 12000, S. P. = 10000
 Loss = C. P. - S. P.
 = 12000 - 10000 $\Rightarrow$ ₹2000
- (e) C. P. = 15.50, S. P. = 22.50
 Profit = S. P. - C. P.
 = 22.50 - 15.50 $\Rightarrow$ ₹ 7.00
- Hari bought a book = ₹ 45 . 25
 Sold a book = - ₹ 40 . 25
 Loss a book = ₹ 5 . 00
 - Orange buys = ₹ 540
 Sells = ₹ 600
 Profit = 600 - 540 = ₹60
 - Amit buys horse = ₹ 80000
 Selling price = - ₹ 75000
 Loss = ₹ 5000
 - Prem bought a car = ₹ 275000
 Profit = + ₹ 5000
 Selling = ₹ 280000
 - A man bought mangoes = 200
 C. P. = ₹ 150
 Selling = ₹ 200
 Profit = 200 - 150 = ₹ 50
 - Cost price = ₹ 882500
 Sold price = - ₹ 780000
 Loss = ₹ 10,2500

Exercise- 12.2

- A man bought a cycle = ₹ 750
 Repair = + ₹ 50
 Cost price = ₹ 800
 Selling price = 850

$$\% \text{ Profit} = \frac{850 - 800}{800} \times 100$$

$$= \frac{50 \times 100}{800} = \frac{50}{8} = 6\frac{2}{8} \%$$
- Cost price of rice = ₹ 10500
 Selling price = 22 $\times$ 500 = ₹ 11000
 Profit = S. P., C. P.
 = 11000 - 10500 = ₹ 500

$$\text{Percentage} = \frac{\text{Profit} \times 100}{\text{C. P.}}$$

$$= \frac{500 \times 100}{10500} = \frac{100}{21} = 4.7619\%$$
- Dog's cost price = ₹ 7000
 profit price = 25%

- $$= \frac{7000 \times 25}{100} = ₹ 1750$$
- Selling price = 7000 + 1750 = ₹8750
- $\frac{15 \times 30}{100} = \frac{45}{10} = ₹ 4.5$
 Selling price = 15 + 4.5 = ₹ 19.550
 dozen
 - Loss = $\frac{7500 \times 15}{100} = ₹ 1125$

$$\begin{array}{r} 7500 \\ - 1125 \\ \hline \end{array}$$
 Selling price = ₹ 6375
 - Gain = $\frac{60 \times 25}{100} = \frac{150}{10} = ₹ 15$
 Cost price = 60 - 15 = ₹45 per kg
 - Cost price = 15000
 Selling price = 14000

$$\text{Loss percent} = \frac{15000 - 14000}{15000} \times 100$$

$$= \frac{1000}{15000} \times 100 = \frac{100}{15} = \frac{20}{3} = 6.67\%$$
 - Loss = 45000 $\times$ $\frac{15}{100} = ₹ 6750$
 Selling price = 45000 - 6750 = ₹ 38250
 - Cost price = $\frac{\text{S. P.} \times 100}{100 + \text{Profit}}$

$$= \frac{545 \times 100}{100 + 25} = \frac{545 \times 100}{125} = ₹ 436$$
 - C. P. = $\frac{18 \times 100}{120} = 15$ per litre

Multiple Choice Questions

1. (c) 2. (a) 3. (a) 4. (a)

13. Simple interest

Exercise- 13.0

- Find the interest :**
 (a) Interest = Amount - Principal
 = 250 - 200 = ₹ 50
 (b) to (d) do same as above.
- Find the simple interest on :**
 (a) Simple Interest = $\frac{P \times R \times N}{100}$

$$= \frac{900 \times 2 \times 3}{100} = ₹ 54$$

(b) to (f) do same as above.

3. Calculate the interest and then find the amount :

$$(a) \text{ Simple Interest} = \frac{400 \times 3 \times 2}{100}$$

$$= 24 \text{ Amt.} = 400 + 24 = ₹ 424$$

(b) to (d) do same as above.

$$4. \text{ Simple Interest} = \frac{45000 \times 2 \times 7}{100 \times 4}$$

$$= 300 \times 7 = ₹ 2100$$

$$\text{Amt. } 45000$$

$$+ 2100$$

$$₹ 47100$$

$$5. \text{ Simple Interest} = \frac{18000 \times 19 \times 3}{100 \times 12}$$

$$= ₹ 855 \text{ Amt. } 18000 + 855 = ₹ 18855$$

$$6. \text{ Simple Interest} = \frac{19000 \times 5.5 \times 1}{100}$$

$$= 1045 \text{ Amt. } 19000$$

$$+ 1045$$

$$₹ 20045$$

$$7. 45000 - 25000 = 20000$$

$$\text{Simple Interest} = \frac{20000 \times 20 \times 6}{100 \times 12}$$

$$= 2000 \text{ Amt.} = 20000$$

$$+ 2000$$

$$₹ 22000$$

$$\text{Required Amount} = ₹ 22000$$

$$8. \text{ Simple Interest} = \frac{1200 \times 18 \times 1}{100 \times 2}$$

$$= ₹ 108 \text{ Amt.} = 1200 + 108 = ₹ 1308$$

$$9. \text{ Simple Interest} = \frac{1800 \times 10 \times 7}{100 \times 3 \times 2}$$

$$= 42 \times 5 = 210$$

$$\text{Amt.} = 1800 + 210 = ₹ 2010$$

$$10. \text{ Simple Interest} = \frac{P \times R \times T}{100}$$

$$990 = \frac{P \times 11 \times 6}{100 \times 2} \quad P = \frac{990 \times 100}{11 \times 3}$$

$$\text{Principal} = ₹ 3000$$

Multiple Choice Questions

1. (c) 2. (c) 3. (a) 4. (c) 5. (b)

14. Unitary Method

Exercise- 14.0

$$1. \text{ Price of } \frac{1}{2} \text{ kg Apple is} = ₹ 12$$

$$\text{Price of 1 kg Apple is} = 12 \times 2 = ₹ 24$$

$$2. 7 \text{ chair cost} = ₹ 1050$$

$$1 \text{ chair cost} = \frac{1050}{7} = ₹ 150$$

$$3. 3 \text{ litre milk} = ₹ 45$$

$$1 \text{ litre milk} = \frac{45}{3}$$

$$7 \text{ litre milk} = \frac{45}{3} \times 7 = ₹ 105$$

$$4. 60 \text{ minutes train go} = 60 \text{ km}$$

$$10 \text{ minutes train go} = \frac{60}{60}$$

$$30 \text{ minutes train go} = \frac{60}{60} \times 30 = 30$$

$$5. 1 \text{ kg onion cost} = 60$$

$$\frac{3}{4} \text{ kg onion cost is} = 60 \times \frac{3}{4} = ₹ 45$$

$$6. 6 \text{ hour travelled} = 186 \text{ km}$$

$$1 \text{ hours travelled} = \frac{186}{6}$$

$$5 \text{ hours travelled} = \frac{186}{6} \times 5$$

$$= 31 \times 5 = 155 \text{ km}$$

$$7. 12 \text{ oranges cost} = ₹ 3$$

$$1 \text{ orange cost} = \frac{3}{12}$$

$$15 \text{ orange cost} = \frac{3}{12} \times 15 = \frac{15}{4}$$

$$= ₹ 3.75$$

$$8. \text{ Cost of 7 Note book} = ₹ 73.50$$

$$\text{Note book} = 73.50$$

$$10 \text{ Note book} = \frac{73.50}{7} \times 10$$

$$= 10.5 \times 10 = ₹ 105.00$$

$$9. 5 \text{ cricket bat cost} = ₹ 1005$$

$$1 \text{ cricket bat cost} = \frac{1005}{5}$$

$$6 \text{ cricket bat cost} = \frac{1005}{5} \times 6 = ₹ 1206$$

$$10. 10 \text{ shirts makes} = 22.5 \text{ cm cloth}$$

$$1 \text{ shirts} = \frac{22.5}{10}$$

- 15 shirts = $\frac{22.5}{10} \times 15 = 33.75\text{m}$
cloth
11. 12 banana weight = 1.5
1 Banana weight = $\frac{1.5}{12}$
6 Banana weight = $\frac{1.5}{12} \times 6 =$
0.75 kg
12. In 6 days worker make toys = 246
1 days worker make toys = $\frac{246}{6}$
8 days make = $\frac{246}{6} \times 8 = 328$ toys
13. 3 persons fare = ₹ 67.50
1 person fare = $\frac{67.50}{3}$
8 persons fare = $\frac{67.50}{3} \times 8$
= $22.50 \times 8 = 180.00$
14. 3 months saves money = ₹ 360
1 months saves money = $\frac{360}{3}$
12 months saves money
= $\frac{360}{3} \times 12 = ₹ 480$
15. 10 pencils cost = ₹ 15
1 pencils cost = $\frac{15}{10}$
24 pencils cost = $\frac{15}{10} \times 24 = ₹ 36$
16. 5 month rent = 7500
1 month rent = $\frac{7500}{5}$
12 month rent = $\frac{7500}{5} \times 12$
= ₹ 18000
17. 5 seconds run = 150 m
1 seconds ran = $\frac{150}{5}$
3.5 seconds = $\frac{150}{5} \times 3.5 = 105.0\text{ m}$
18. (a) Cost of English = ₹ 4000
(b) Cost Mathematics = ₹ 75000

- (c) English + Mathematics = ₹ 11500 (d) 750 Profit (e) 375 Loss
(f) 375 Profit

Multiple Choice Questions

1. (b) 2. (a) 3. (d) 4. (c) 5. (b)

15. Geometrical Shapes

Exercise-15.1

Do yourself

Exercise-15.2

Do yourself

Multiple Choice Questions

1. (b) 2. (b) 3. (b) 4. (c) 5. (a)

16. Triangles and Quadrilaterals

Exercise-16.1

Do yourself

Exercise-16.2

Do yourself

Exercise-16.3

- Write 'T' for true or 'F' for false :
(a) T (b) F (c) F (d) T (e) T (f) F
 - In the following triangle, the measure of two angles is given. Find the measure of the third :
(a) $x + 65 + 55 = 120 \Rightarrow x + 120 = 180 \Rightarrow x = 180 - 120 \Rightarrow x = 60$
(b) $x + 140 + 20 = 180 \Rightarrow x + 160 = 180 \Rightarrow x = 180 - 160 \Rightarrow x = 20$
(c) $x + 20 + 90 = 180 \Rightarrow x + 110 = 180 \Rightarrow x = 180 - 110 \Rightarrow x = 70$
(d) $x + 60 + 90 = 180 \Rightarrow x + 150 = 180 \Rightarrow x = 180 - 150 \Rightarrow x = 30$
(e) $x + 45 + 80 = 180 \Rightarrow x + 125 = 180 \Rightarrow x = 180 - 125 \Rightarrow x = 55$
(f) $x + 60 + 50 = 180 \Rightarrow x + 110 = 180 \Rightarrow x = 180 - 110 \Rightarrow x = 70^\circ$
 - Do yourself
 - (a) square (b) rectangle (c) rectangle
- Multiple Choice Questions :**
1. (b) 2. (a) 3. (c) 4. (c) 5. (d)