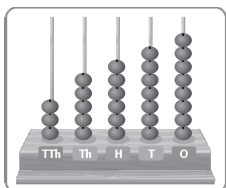


CHAPTER-1: NUMBER SYSTEM AND ROMAN NUMBERS

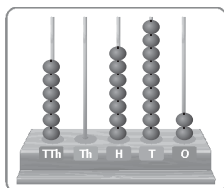
Assessment Time 1.1

1. Show the following numbers on the abacus:

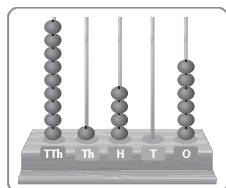
a. 35678



b. 60792

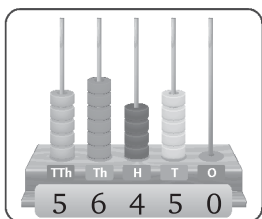


c. 91406

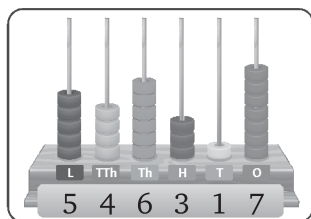


2. Write the numerals shown on the following abacus:

a.



b.



3. Write the following numerals in periods and write their number names:

- 3,14,328 : Three lakh fourteen thousand three hundred twenty-eight
- 50,90,628 : Fifty lakh ninety thousand six hundred twenty-eight
- 70,07,081 : Seventy lakh seven thousand eighty-one
- 86,28,057 : Eighty-six lakh twenty-eight thousand fifty-seven.

4. Write the numerals for the following number names:

- Thirty-six lakh four thousand nine hundred eight
= 36,04,908
- Ninety-six thousand five hundred fifty = 96,550

5. Arrange the following numerals in the place-value chart and write their number names:

S. No.	Numerals	Lakhs		Thousands		Ones		
		TL	L	TTh	Th	H	T	O

a.	3634287	3	6	3	4	2	8	7
b.	5176285	5	1	7	6	2	8	5
c.	7096284	7	0	9	6	2	8	4
d.	6096283	6	0	9	6	2	8	3

- (a) Thirty-six lakh thirty-four thousand two hundred eighty-seven
 (b) Fifty-one lakh seventy-six thousand two hundred eight-five
 (c) Seventy lakh ninety-six thousand two hundred eighty-four
 (d) Sixty lakh ninety-six thousand two hundred eighty-three

Assessment Time 1.2

1. Write the face value of coloured digits:

- a. 56329; face value of 2 is 2.
 b. 640628; face value of 0 is 0.
 c. 709632; face value of 9 is 9.
 d. 9150632; face value of 3 is 3.

2. Write the place value of coloured digits:

- a. 917236; Since in 917236, 9 is at Lakhs place
 So, place value of 9 is $9 \times 100000 = 900000$.
 b. 4832432; Since in 4832432, 3 is at ten thousand place
 So, place value of 3 is $3 \times 10000 = 30000$.
 c. 8702892; Since in 8702892, 2 is at thousand place
 So, place value of 2 is $2 \times 1000 = 2000$.
 d. 9937062; Since in 9937062, 3 is at ten thousand place
 So, place value of 3 is $3 \times 10000 = 30000$.

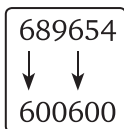
3. Find the sum of place value of both:

- a. 4s in 642834; We write 4 below 4s and write zeroes at place of other digit

6	4	2	8	3	4
	↓		↓		
	4	0	0	0	4

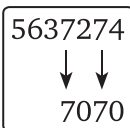
So, the sum of both 4s is 40004.

- b. 6s in 689654; We write 6 below 6s and write zeroes at place of other digit



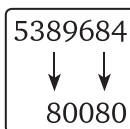
So, the sum of both 6s is 600600.

- c. 7s in 5637274; We write 7 below 7s and write zeroes at place of other digit



So, the sum of both 7s is 7070.

- d. 8s in 5389684; We write 8 below 6s and write zeroes at place of other digit



So, the sum of both 8s is 80080.

4. Find the difference of place value of both:

- a. 5s in 657285

The difference of both 5s = $50000 - 5 = 49995$

- b. 6s in 672865

The difference of both 6s = $600000 - 60 = 599940$

- c. 3s in 593823

The difference of both 3s = $3000 - 3 = 2997$

- d. 7s in 5728794

The difference of both 7 = $700000 - 700 = 699300$

5. Write the expanded form of the following:

- a. $66328 = 60000 + 6000 + 300 + 20 + 8$

- b. $806382 = 800000 + 00 + 6000 + 300 + 80 + 2$

- c. $763281 = 700000 + 60000 + 3000 + 200 + 80 + 1$

- d. $6792854 = 6000000 + 700000 + 90000 + 2000 + 800 + 50 + 4$

6. Write the short form of the following:

- a. $30000 + 4000 + 600 + 90 = 34690$

- b. $7000000 + 600000 + 50000 + 9000 + 80 + 7 = 765987$

Assessment Time 1.3

1. Fill in the boxes with '>', '<' or '=':

- a. 724858 () 1028579 b. 342859 () 77285
c. 5962843 () 6728594 d. 8140628 () 8896376

2. Arrange the following numbers in ascending order:

- a. 3806243, 7962853, 4059672, 6489672
Since, $3806243 < 4059672 < 6489672 < 7962853$
So, Ascending order: 3806243, 4059672, 6489672, 7962853
- b. 543728, 972856, 409628, 796285
Since, $409628 < 543728 < 796285 < 972856$
So, Ascending order: 409628, 543728, 796285, 972856
- c. 6728532, 8145628, 593728, 456289
Since, $456289 < 593728 < 6728532 < 8145628$
So, Ascending order: 456289, 593728, 6728532, 8145628
- d. 542896, 42853, 106728, 592834
Since, $42853 < 106728 < 542896 < 592834$
So, Ascending order: 42853, 106728, 542896, 592834

3. Arrange the following numbers in descending order:

- a. 8063285, 596372, 71904, 516823
Since, $8063285 > 596372 > 516823 > 71904$
So, Descending order: 8063285, 596372, 516823, 71904
- b. 9063285, 746328, 8163284, 643728
Since, $9063285 > 8163284 > 746328 > 643728$
So, Descending order: 9063285, 8163284, 746328, 643728
- c. 6028537, 9162854, 5896374, 1056283
Since, $9162854 > 6028537 > 5896374 > 1056283$
So, Descending order: 9162854, 6028537, 5896374, 1056283
- d. 742896, 509628, 372854, 543728
Since, $742896 > 543728 > 509628 > 372854$
So, Descending order: 742896, 543728, 509628, 372854

Assessment Time 1.4

1. Write the successor of the following numbers:

a. 353728

Successor of 353728 is $353728 + 1 = 353729$

b. 569879

Successor of 569879 is $569879 + 1 = 569880$

c. 707289

Successor of 707289 is $707289 + 1 = 707290$

d. 912854

Successor of 912854 is $912854 + 1 = 912855$

2. Write the predecessor of the following numbers:

a. 913064

Predecessor of 913064 is $913064 - 1 = 913063$

b. 61728

Predecessor of 61728 is $61728 - 1 = 61727$

c. 438140

Predecessor of 438140 is $438140 - 1 = 438139$

d. 723625

Predecessor of 723625 is $723625 - 1 = 723624$

3. Form the greatest numbers using the following digits:

a. 8, 4, 1, 7, 5

To find greatest number we arrange the given digits in descending order,

So, greatest number = **87541**.

b. 9, 0, 8, 3, 1

So, greatest number = **98310**.

c. 4, 3, 6, 1, 2, 9, 5

So, greatest number = **9654321**.

d. 5, 4, 3, 7, 2, 6, 8

So, greatest number = **8765432**.

4. Form the smallest numbers using the following digits:

a. 4, 0, 2, 3, 1

To find the smallest number, we arrange the given digits in ascending order.

So smallest number = **10234**.

- b. 4, 1, 9, 7, 6

So smallest number = **14679**.

- c. 8, 2, 3, 4, 7, 9, 5

So smallest number = **2345789**.

- d. 6, 0, 9, 4, 7, 8

So smallest number = **406789**.

5. Fill in the blanks:

- a. The successor of the greatest 5-digit number is **100000** .
b. The predecessor of the smallest 4-digit number is **9998**.
c. The successor of the 728359 is **728360** .
d. The predecessor of the 7654890 is **7654889**.

Assessment Time 1.5

1. Round off the following numbers to the nearest 10:

- a. $3728\boxed{5} \rightarrow 37290$ (Since ones place digit is 5)
b. $5039\boxed{2} \rightarrow 50390$ (Since $2 < 5$)
c. $61284\boxed{6} \rightarrow 612850$ (Since $6 > 5$)
d. $7162\boxed{8} \rightarrow 71630$ (Since $8 > 5$)
e. $401164\boxed{7} \rightarrow 4011650$ (Since $7 > 5$)
f. $81230\boxed{4} \rightarrow 812300$ (Since $4 < 5$)
g. $51962\boxed{3} \rightarrow 519620$ (Since $3 < 5$)
h. $928752\boxed{9} \rightarrow 9287530$ (Since $9 > 5$)

2. Round off the following numbers to the nearest 100:

- a. $2285\boxed{3}2 \rightarrow 228500$ (Since $3 < 5$)
b. $8196\boxed{5}4 \rightarrow 819700$ (Since $5 = 5$)
c. $3172\boxed{8}9 \rightarrow 317300$ (Since $8 > 5$)
d. $7128\boxed{5}4 \rightarrow 712900$ (Since $5 = 5$)
e. $7162\boxed{4}5 \rightarrow 716200$ (Since $4 < 5$)
f. $9162\boxed{8}3 \rightarrow 916300$ (Since $8 > 5$)
g. $5162\boxed{1}6 \rightarrow 516200$ (Since $1 < 5$)
h. $87815\boxed{4}2 \rightarrow 8781500$ (Since $4 < 5$)

3. Round off the following numbers to the nearest 1000:

- a. $81\boxed{9}62 \rightarrow 82000$ (Since $9 > 5$)
- b. $516\boxed{4}28 \rightarrow 516000$ (Since $4 < 5$)
- c. $562\boxed{8}42 \rightarrow 563000$ (Since $8 > 5$)
- d. $927\boxed{3}26 \rightarrow 927000$ (Since $3 < 5$)
- e. $347\boxed{9}26 \rightarrow 348000$ (Since $9 > 5$)
- f. $265\boxed{2}27 \rightarrow 265000$ (Since $2 < 5$)
- g. $279\boxed{6}18 \rightarrow 280000$ (Since $6 > 5$)
- h. $682\boxed{1}45 \rightarrow 682000$ (Since $1 < 5$)

4. Round off the following numbers to the nearest 10000:

- a. $56\boxed{1}823 \rightarrow 560000$ (Since $1 < 5$)
- b. $34\boxed{5}724 \rightarrow 350000$ (Since $5 = 5$)
- c. $243\boxed{2}826 \rightarrow 2430000$ (Since $2 < 5$)
- d. $81\boxed{7}615 \rightarrow 820000$ (Since $7 > 5$)
- e. $418\boxed{2}719 \rightarrow 4180000$ (Since $2 < 5$)
- f. $328\boxed{9}576 \rightarrow 3290000$ (Since $9 > 5$)
- g. $468\boxed{1}587 \rightarrow 4680000$ (Since $1 < 5$)
- h. $367\boxed{8}276 \rightarrow 3680000$ (Since $8 > 5$)

Assessment Time 1.6**1. Express each of the following as Roman numerals:**

- a. $15 = 10 + 5 = XV$
- b. $18 = 10 + 5 + 3 = XVIII$
- c. $29 = 10 + 10 + 9 = XXIX$
- d. $95 = (100 - 10) + 5 = XCV$
- e. $135 = 100 + 10 + 10 + 10 + 5 = CXXXV$
- f. $260 = 100 + 100 + 50 + 10 = CCLX$
- g. $324 = 100 + 100 + 100 + 10 + 10 + 4 = CCCXXIV$
- h. $518 = 500 + 10 + 5 + 3 = DXVIII$

2. Express each of the following is Hindu-Arabic numerals:

- a. $LXIX = 50 + 10 + 9 = 69$

- b. $LXX = 50 + 10 + 10 = 70$
- c. $LXXII = 50 + 10 + 10 + 2 = 72$
- d. $XC VII = (100 - 10) + 5 + 2 = 97$
- e. $CV = 100 + 5 = 105$
- f. $CDVI = (500 - 100) + 5 + 1 = 406$
- g. $CM = (1000 - 100) = 900$
- h. $CMXV = (1000 - 100) + 10 + 5 = 915$

3. Write the sum in Roman numerals:

- a. $XL + VI = 40 + 6 = 46 = XLVI$
- b. $LX + IX = 60 + 9 = 69 = LXIX$
- c. $LXX + VII = 70 + 7 = 77 = LXXVII$
- d. $XIX + XLIX = 19 + 49 = 68 = LXVIII$
- e. $XII + V + XLI = 12 + 5 + 41 = 58 = LVIII$
- f. $XCV + XL = 95 + 40 = 135 = CXXXV$
- g. $IX + LXXI = 9 + 71 = 80 = LXXX$
- h. $LXIX + VIII = 69 + 8 = 77 = LXXVII$

4. Write the difference in Roman numerals:

- a. $56 - 10 = 46 = (50 - 10) + 6 = XLVI$
- b. $74 - 19 = 55 = 50 + 5 = LV$
- c. $63 - 18 = 45 = (50 - 10) + 5 = XLV$
- d. $108 - 6 = 102 = 100 + 2 = CII$
- e. $226 - 14 = 212 = 100 + 100 + 10 + 2 = CCXII$
- f. $318 - 104 = 214 = 100 + 100 + 10 + 4 = CCXIV$
- g. $208 - 13 = 195 = 100 + 90 + 5 = CXC V$
- h. $623 - 514 = 109 = 100 + 9 = CIX$

Mental Maths

- 1. 85700
- 2. 656379
- 3. 707

MCQs

- 1. (a)
- 2. (b)
- 3. (a)

CHAPTER-2: Addition

Assessment Time 2.1

1. Add the following:

a.

	TTh	Th	H	T	O
	5	4	5	1	4
+	2	2	3	5	2
	7	6	8	6	6

b.

	TTh	Th	H	T	O
	4	2	1	4	3
+	3	4	2	3	5
	7	6	3	7	8

c.

	TTh	Th	H	T	O
	4	7	1	6	5
+	2	2	7	1	3
	6	9	8	7	8

d.

	TTh	Th	H	T	O
	3	4	2	1	6
+	2	3	5	0	3
	5	7	7	1	9

e.

	TTh	Th	H	T	O
	4	3	2	5	6
+	2	1	7	3	2
	6	4	9	8	8

f.

	TTh	Th	H	T	O
	1	4	5	6	2
+	7	5	4	1	4
	8	9	9	7	2

2. Add the following:

a.

	L	TTh	Th	H	T	O
	4	3	2	1	6	3
+	5	2	5	7	1	4
	9	5	7	8	7	7

b.

	L	TTh	Th	H	T	O
	4	3	2	1	6	6
+	3	2	1	7	3	3
	7	5	3	8	9	9

c.

	L	TTh	Th	H	T	O
	4	6	4	2	1	3
+	3	3	5	3	6	4
	7	9	9	5	7	7

d.

	L	TTh	Th	H	T	O
	5	2	3	1	6	3
+	2	3	4	3	2	5
	7	5	7	4	8	8

Assessment Time 2.2

1. Add the following:

a.

	TTh	Th	H	T	O
	1	1	1	1	
	4	5	8	4	8
+	3	8	9	6	5
	8	4	8	1	3

b.

	TTh	Th	H	T	O
	1	1	1	1	
	4	3	5	7	6
+	5	6	9	8	5
	1	0	0	5	1

c.

	TTh	Th	H	T	O
	1	1	1	1	
	4	8	5	2	7
+	3	7	6	9	6
	8	6	2	2	3

d.	<table> <tr><th></th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td>1</td><td>1</td><td>1</td><td>1</td><td></td></tr> <tr><td></td><td>3</td><td>2</td><td>6</td><td>5</td><td>9</td></tr> <tr><td>+</td><td>4</td><td>8</td><td>9</td><td>7</td><td>6</td></tr> <tr><td></td><td>8</td><td>1</td><td>6</td><td>3</td><td>5</td></tr> </table>		TTh	Th	H	T	O		1	1	1	1			3	2	6	5	9	+	4	8	9	7	6		8	1	6	3	5	e.	<table> <tr><th></th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td>1</td><td>1</td><td>1</td><td>1</td><td></td></tr> <tr><td></td><td>5</td><td>7</td><td>6</td><td>8</td><td>3</td></tr> <tr><td>+</td><td>1</td><td>2</td><td>6</td><td>5</td><td>8</td></tr> <tr><td></td><td>7</td><td>0</td><td>3</td><td>4</td><td>1</td></tr> </table>		TTh	Th	H	T	O		1	1	1	1			5	7	6	8	3	+	1	2	6	5	8		7	0	3	4	1	f.	<table> <tr><th></th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td></td><td>1</td><td>1</td><td>1</td><td></td></tr> <tr><td></td><td>7</td><td>5</td><td>6</td><td>3</td><td>2</td></tr> <tr><td>+</td><td>1</td><td>2</td><td>5</td><td>9</td><td>8</td></tr> <tr><td></td><td>8</td><td>8</td><td>2</td><td>3</td><td>0</td></tr> </table>		TTh	Th	H	T	O			1	1	1			7	5	6	3	2	+	1	2	5	9	8		8	8	2	3	0
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+	1	2	5	9	8																																																																																										
	8	8	2	3	0																																																																																										

2. Add the following:

a.

	L	TTh	Th	H	T	O
	1	1	1	1	1	
	5	4	5	7	6	4
+	2	8	9	7	5	8
	8	3	5	5	2	2

b.

	L	TTh	Th	H	T	O
	1	1	1	1	1	
	4	8	5	6	7	9
+	3	5	7	8	5	4
	8	4	3	5	3	3

c.

	L	TTh	Th	H	T	O
	1	1	2	1	1	
	5	4	2	8	1	7
+	2	3	9	7	6	5
+	3	8	5	4	3	6
	1	1	6	8	0	1
	1	1	6	8	0	1

d.

	L	TTh	Th	H	T	O
	1	1	2	1	1	
	5	7	6	8	5	4
+	2	8	5	9	7	6
+	1	0	3	7	0	7
	9	6	6	5	3	7

3. Arrange the following in columns and add:

- a. $32857 + 41897 + 37265$ b. $528364 + 24379 + 6728$

	TTh	Th	H	T	O
	1	2	2	1	
	3	2	8	5	7
+	4	1	8	9	7
+	3	7	2	6	5
	1	1	2	0	1
	1	2	0	1	9

	L	TTh	Th	H	T	O
		1	1	1	2	
	5	2	8	3	6	4
+		2	4	3	7	9
+			6	7	2	8
	5	5	9	4	7	1
	5	5	9	4	7	1

Assessment Time 2.3

1. Fill in the blanks:

- | | |
|----------------------------|------------------------------|
| a. $3728 + 1 = 3729$ | b. $52854 + 1 = 52855$ |
| c. $41624 + 10 = 41634$ | d. $74328 + 10 = 74338$ |
| e. $63142 + 100 = 63242$ | f. $25396 + 100 = 25496$ |
| g. $24382 + 1000 = 25382$ | h. $39628 + 1000 = 40628$ |
| i. $31962 + 10000 = 41962$ | j. $712837 + 10000 = 722837$ |

Assessment Time 2.4

1. Megha earn per month = ₹ 75,650

Her husband earn per month = ₹ 98,980

Total earnings = ₹ (75,650 + 99,890)

$$= ₹ 1,75,540$$

The total earning of both in a month in

₹ 1,75,540.

	TTh	Th	H	T	O
	1	1	1		
	7	5	6	5	0
+	9	9	8	9	0
	1	7	5	5	4
					0

2. Number of bags of wheat = 92,680

Number of bags of rice = 87,950

Total no. of bags in godown = 92,680 + 87,950

$$= 1,80,630$$

Hence, the total number of bags in the godown is 1,80,630.

	TTh	Th	H	T	O
	1	1	1		
	9	2	6	8	0
+	8	7	9	5	0
	1	8	0	6	3
					0

3. Number of guavas tree = 2,463

Number of pears tree = 3,963

Total number of trees in an orchard

$$= 2,463 + 3,963$$

$$= 6,426$$

The total number of trees in an orchard is 6,426.

	TTh	Th	H	T	O
	1	1			
	2	4	6	3	
+	3	9	6	3	
	6	4	2	6	

4. Number of votes that candidate A got more than candidate B = 7,850

Number of votes candidate B got = 39,893

Number of votes candidate A got

$$= 39,893 + 7,850 = 47,743$$

Candidate A got 47,743 votes.

	TTh	Th	H	T	O
	1	1	1		
	3	9	8	9	3
+		7	8	5	0
	4	7	7	4	3

5. Number of books of Hindi = 3,482

Number of books of Maths = 4,968

Number of books of other subjects = 24,378

Total number of books

$$= 3,482 + 4,968 + 24,378$$

$$= 32,828$$

Hence, the total number of books in the library is 32,828.

	TTh	Th	H	T	O
	1	1	2	1	
		3	4	8	2
		4	9	6	8
+	2	4	3	7	8
	3	2	8	2	8

12 Key Math-04

6. Number of males = 43,782
 Number of females = 41,968
 Total population in the town
 $= 43,782 + 41,968 = 85,750$
 Hence, the population of the town is 85,750.

	TTh	Th	H	T	O
	4	3	7	8	2
+	4	1	9	6	8
	8	5	7	5	0

7. Cost of a refrigerator = ₹ 28,690
 So, Cost of a LED Television = ₹ (28,690 + 18,284) = ₹ 46,974
 So, the cost of both items = ₹ (28,690 + 46,974)

	TTh	Th	H	T	O
	1		1		
	2	8	6	9	0
+	1	8	2	8	4
	4	6	9	7	4

	TTh	Th	H	T	O
	1	1	1		
	4	6	9	7	4
+	2	8	6	9	0
	7	5	6	6	4

$$= ₹ 75,664$$

Hence, the total cost of both items is ₹ 75,664.

8. Largest 5-digit number = 99,999
 Largest 6-digit number = 9,99,999
 Sum = 10,99,998
 Hence, the sum of largest 5-digit and 6-digit number is 10,99,998.

	L	TTh	Th	H	T	O
	1	1	1	1	1	
	9	9	9	9	9	9
+		9	9	9	9	9
	1	0	9	9	9	8

9. Largest 6-digit number = 9,99,999
 Smallest 5-digit number = 10,000
 Sum = 9,99,999 + 10,000
 Hence, the sum of largest 6-digit number and smallest 5-digit number is 1009999

	L	TTh	Th	H	T	O
	1					
	9	9	9	9	9	9
+		1	0	0	0	0
	1	0	0	9	9	9

SEL

- Money collected from VI = ₹ 15,620
 Money collected from VII = ₹ 24,370
 Money collected from VIII = ₹ 30,980
 Total money collected
 $= ₹ (15,620 + 24,370 + 30,980)$
 $= ₹ 70,970$

	TTh	Th	H	T	O
	1	1	1		
	1	5	6	2	0
+	2	4	3	7	0
+	3	0	9	8	0
	7	0	9	7	0

Assessment Time 2.5

1. Find the estimated sum of the following to nearest 10. Also compare their sum with the actual sum:

a. $4316 + 3284$

Actual sum

	Th	H	T	O
		1	1	
	4	3	1	6
+	3	2	8	4
	7	6	0	0

Estimated sum

	Th	H	T	O
		1		
	4	3	2	0
+	3	2	8	0
	7	6	0	0

(Nearest 10)

(Nearest 10)

Both the sum of actual values and estimated values are same.

b. $5719 + 2865$

Actual sum

	Th	H	T	O
	1		1	
	5	7	1	9
+	2	8	6	5
	8	5	8	4

Estimated sum

	Th	H	T	O
	1			
	5	7	2	0
+	2	8	7	0
	8	5	9	0

(Nearest 10)

(Nearest 10)

The actual sum 8584 is very close to the estimated sum 8690.

c. $39626 + 81453$

Actual sum

	TTh	Th	H	T	O
	1	1			
	3	9	6	2	6
+	8	1	4	5	3
	1	2	1	0	7
					9

Estimated sum

	TTh	Th	H	T	O
	1	1			
	3	9	6	3	0
+	8	1	4	5	0
	1	2	1	0	8
					0

(Nearest 10)

(Nearest 10)

The actual sum 121079 is very close to the estimated sum 121080.

d. $61625 + 44281$

Actual sum

	TTh	Th	H	T	O
			1		
	6	1	6	2	5
+	4	4	2	8	1
	1	0	5	9	0
					6

Estimated sum

	TTh	Th	H	T	O
			1		
	6	1	6	3	0
+	4	4	2	8	0
	1	0	5	9	1
					0

(Nearest 10)

(Nearest 10)

The actual sum 105906 is very close to the estimated sum 10510.

2. Find the estimated sum of the following to nearest 100. Also compare their sum with the actual sum:

a. $532852 + 52836$

	L	TTh	Th	H	T	O
			1			
	5	3	2	8	5	2
+		5	2	8	3	6
	5	8	5	6	8	8

→

	L	TTh	Th	H	T	O
			1			
	5	3	2	9	0	0
+		5	2	8	0	0
	5	8	5	7	0	0

(Nearest 100)

→

(Nearest 100)

The actual sum 585688 is close to the estimated sum 585700.

b. $35286 + 47218$

	L	TTh	Th	H	T	O
			1		1	1
		3	5	2	8	6
+		4	7	2	1	8
		8	2	5	0	4

→

	L	TTh	Th	H	T	O
			1			
		3	5	3	0	0
+		4	7	2	0	0
		8	2	5	0	0

(Nearest 100)

→

(Nearest 100)

The actual sum 82504 is close to the estimated sum 82500.

c. $37974 + 28195$

	L	TTh	Th	H	T	O
			1	1	1	
		3	7	9	7	4
+		2	8	1	9	5
		6	6	1	6	9

→

	L	TTh	Th	H	T	O
			1			
		3	8	0	0	0
+		2	8	2	0	0
		6	6	2	0	0

(Nearest 100)

→

(Nearest 100)

The actual sum 66169 is close to the estimated sum 66200.

d. $30964 + 402814$

	L	TTh	Th	H	T	O
			1			
		3	0	9	6	4
+	4	0	2	8	1	4
	4	3	3	7	7	8

→

	L	TTh	Th	H	T	O
			1			
		3	1	0	0	0
+	4	0	2	8	0	0
	4	3	3	8	0	0

(Nearest 100)

→

(Nearest 100)

The actual sum 433778 is close to the estimated sum 433800.

3. Find the estimated sum of the following to nearest 1000. Also compare their sum with the actual sum:

a. $47128 + 54976$

	L	TTh	Th	H	T	O	
		1	1	1	1		
		4	7	1	2	8	→
+		5	4	9	7	6	→
	1	0	2	1	0	4	

	L	TTh	Th	H	T	O	
		1					
		4	7	0	0	0	(Nearest 1000)
+		5	5	0	0	0	(Nearest 1000)
	1	0	2	0	0	0	

The actual sum 102104 is close to the estimated sum 102000.

b. $50372 + 71672$

	L	TTh	Th	H	T	O	
				1			
		5	0	3	7	2	→
+		7	1	6	7	2	→
	1	2	2	0	4	4	

	L	TTh	Th	H	T	O	
		5	0	0	0	0	(Nearest 1000)
+		7	2	0	0	0	(Nearest 1000)
	1	2	2	0	0	0	

The actual sum 122044 is close to the estimated sum 122000.

c. $52837 + 30239$

	TTh	Th	H	T	O	
		1		1		
	5	2	8	3	7	→
+	3	0	2	3	9	→
	8	3	0	7	6	

	TTh	Th	H	T	O	
	5	3	0	0	0	(Nearest 1000)
+	3	0	0	0	0	(Nearest 1000)
	8	3	0	0	0	

The actual sum 83076 is close to the estimated sum 83000.

d. $37284 + 46872$

	TTh	Th	H	T	O	
	1	1	1			
	3	7	2	8	4	→
+	4	6	8	7	2	→
	8	4	1	5	6	

	TTh	Th	H	T	O	
	1					
	3	7	0	0	0	(Nearest 1000)
+	4	7	0	0	0	(Nearest 1000)
	8	4	0	0	0	

The actual sum 84156 is close to the estimated sum 84000.

4. Candidate A got vote = 4,23,470

Candidate B got vote = 87,340

Candidate C got vote = 44,757

Total votes = $4,23,470 + 87,340 + 44,757$

Values of votes nearest to hundred is

$4,23,500 + 87,300 + 44,800 = 5,55,600$

The total votes that all the candidates get nearest 100 is 5,55,600

	L	TTh	Th	H	T	O
	1	1	1			
	4	2	3	5	0	0
+		8	7	3	0	0
+		4	4	8	0	0
	5	5	5	6	0	0

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5. Number of tourist visited in 1st year = 57,283

No. of tourists visited in 2nd year = 64,972

No. of tourists visited in 3rd year = 93,654

Value of tourists nearest to thousand

= 57000, 65000, 94000

= 57000 + 65000 + 94000

= 216000

	TTh	Th	H	T	O
	1				
	5	7	0	0	0
+	6	5	0	0	0
+	9	4	0	0	0
	2	1	6	0	0

Mental Maths

1. $47285 + 6132 = 6132 + 47285$

2. $81632 + 0 = 81632$

3. $61962 + 10 = 61972$

4. $764528 + 1000 = 765528$

Multiple Choice Questions

Tick (✓) the correct option:

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

Test Your Skills

a. Number of books at the end of third year

= $34,848 + 93 + 779$

= 36,580

b. Number of books at the end of fourth year = 36,580

+ 2,548 = 38,928

CHAPTER 3: SUBTRACTION

Assessment Time 3.1

1. Subtract the following:

a.

	TTh	Th	H	T	O
	7	3	4	0	8
-	2	1	3	0	4
	5	2	1	0	4

b.

	TTh	Th	H	T	O
	6	2	8	3	8
-	3	1	6	1	4
	3	1	2	2	4

c.

	TTh	Th	H	T	O
	8	7	2	8	5
-	4	3	1	7	3
	4	4	1	1	2

d.

	TTh	Th	H	T	O
	5	6	2	8	5
-	4	3	1	5	1
	1	3	1	3	4

2. Subtract the following:

a.

	L	TTh	Th	H	T	O
	8	6	3	4	2	8
-	5	4	1	3	1	6
	3	2	2	1	1	2

b.

	L	TTh	Th	H	T	O
	7	5	3	2	8	5
-	4	3	1	2	2	3
	3	2	2	0	6	2

c.

	L	TTh	Th	H	T	O
	6	4	3	2	8	9
-	4	1	2	1	6	7
	2	3	1	1	2	2

d.

	L	TTh	Th	H	T	O
	9	6	3	2	8	7
-	7	3	2	1	7	3
	2	3	1	1	1	4

3. Find the difference when:

a.

	TTh	Th	H	T	O
	7	9	6	7	3
-	6	4	3	4	1
	1	5	3	3	2

b.

	TTh	Th	H	T	O
	8	3	2	5	7
-	6	2	1	4	3
	2	1	1	1	4

c.

	L	TTh	Th	H	T	O
	5	7	9	6	3	2
-	4	6	7	2	1	2
	1	1	2	4	2	0

d.

	L	TTh	Th	H	T	O
	5	8	9	0	4	3
-	3	5	4	0	3	2
	2	3	5	0	1	1

e.

	TTh	Th	H	T	O
	8	4	6	8	5
-	7	2	5	3	4
	1	2	1	5	1

f.

	TTh	Th	H	T	O
	9	7	5	6	9
-	8	4	2	6	1
	1	3	3	0	8

Assessment Time 3.2

1. Subtract the following:

a.

	TTh	Th	H	T	O
	7	11		2	14
	8	1	2	3	4
-	3	7	1	2	8
	4	4	1	0	6

b.

	TTh	Th	H	T	O
	5	9	9	11	12
	6	0	0	2	2
-	3	2	8	3	5
	2	7	1	8	7

c.

	TTh	Th	H	T	O
	6	12	9	11	
	7	3	0	1	2
-	2	8	5	2	2
	4	4	4	9	0

d.

	TTh	Th	H	T	O
		2	11	10	14
	9	3	2	1	4
-	5	2	8	1	7
	4	0	3	9	7

2. Subtract the following:

a.

	L	TTh	Th	H	T	O
	5	9	9	9	11	13
	6	0	0	0	2	3
-	3	2	1	4	5	7
	2	7	8	5	6	6

b.

	L	TTh	Th	H	T	O
	8	10	9	11	10	11
	9	1	0	2	1	1
-	4	2	8	5	9	2
	4	8	1	6	1	9

c.

	L	TTh	Th	H	T	O
		8	10		7	12
	5	9	0	2	8	2
-	4	8	3	1	7	9
	1	0	6	1	0	3

d.

	L	TTh	Th	H	T	O
		8	12	11	10	10
	5	9	3	2	1	0
-	3	2	7	5	1	2
	2	6	4	6	9	8

e.

	L	TTh	Th	H	T	O
		4	10	12		
	9	3	1	2	6	2
-	3	2	5	7	5	2
	6	2	5	5	1	0

f.

	L	TTh	Th	H	T	O
	6	15	5	11	14	
	7	5	6	2	4	7
-	5	6	5	4	7	2
	1	9	0	7	7	5

3. Find the difference when:

a.

	L	TTh	Th	H	T	O
	7	12	12			
	8	3	2	8	9	4
-	2	4	8	3	6	1
	5	8	4	5	3	3

b.

	Tl	L	TTh	Th	H	T	O
	6	9	11	12	7	13	
	7	0	2	2	8	3	5
-		4	3	8	5	9	1
	6	5	8	4	2	4	4

c.

	L	TTh	Th	H	T	O
		6	12			
	6	7	2	8	9	3
-	5	6	7	2	4	3
	1	0	5	6	5	0

Assessment Time 3.3

1. Subtract the following and check the answer by addition:

a.

	TTh	Th	H	T	O
	7	11	13		
	8	2	3	5	9
-	4	2	8	4	7
	3	9	5	1	2

	TTh	Th	H	T	O
	1	1			
	3	9	5	1	2
+	4	2	8	4	7
	8	2	3	5	9

b.

	TTh	Th	H	T	O
	8	12	10	1	18
	9	3	0	2	8
-	4	6	4	1	9
	4	6	6	0	9

	TTh	Th	H	T	O
	1	1		1	
	4	6	6	0	9
+	4	6	4	1	9
	9	3	0	2	8

Assessment Time 3.4

1. Total population of a city = 7,32,859
 Number of males = 4,25,428
 Number of females = 7,32,859 - 4,25,428

	L	TTh	Th	H	T	O
		2	12			
	7	3	2	8	5	9
-	4	2	5	4	2	8
	3	0	7	4	3	1

$$= 3,07,431$$

Hence, there are 3,07,431 females in a town.

2. Number of bags of rice = 4,63,729
 Number of bags of rice taken out = 2,38,940
 Remaining bags = 4,63,729 - 2,38,940

	L	TTh	Th	H	T	O
		5	12	16	12	
	4	6	3	7	2	9
-	2	3	8	9	4	0
	2	2	4	7	8	9

$$= 2,24,789$$

Hence, the remaining bags are 2,24,789.

3. Total number of students in university = 98,563

Number of boys = 67,436

Number of girls = 98,563 – 67,436

$$= 31,127$$

	L	TTh	Th	H	T	O
					5	13
	9	8	5	6	3	
–	6	7	4	3	6	
	3	1	1	2	7	

4. Sum of two numbers = 6,32,892

One number = 4,20,039

Other number = 6,32,892 – 4,20,039

$$= 2,12,853$$

Hence, the other number is 2,12,853

	L	TTh	Th	H	T	O
					8	12
	6	3	2	8	9	2
–	4	2	0	0	3	9
	2	1	2	8	5	3

5. Greatest 6-digit number = 999999

Number = 73,496

Number which is less = 999999 – 73,496

$$= 9,26,503$$

Hence, the number which is 73,496 less than the greatest 6-digit number is 9,26,503

	L	TTh	Th	H	T	O
	9	9	9	9	9	9
–		7	3	4	9	6
	9	2	6	5	0	3

6. Required number = 7,00,394 – 54,289

$$= 6,46,105$$

Hence, the number that must be added to 54,289 to get 7,00,394

	L	TTh	Th	H	T	O
	6	9	10		8	14
	7	0	0	3	9	4
–		5	4	2	8	9
	6	4	6	1	0	5

7. Required number = 7,43,602 – 5,73,824

$$= 1,69,778$$

1,69,778 must be subtract from 7,43,602 to get 5,73,824

	L	TTh	Th	H	T	O
	6	13	12	15	9	12
	7	4	3	6	0	2
–	5	7	3	8	2	4
	1	6	9	7	7	8

8. Required number = 7,03,296 – 534,269 = 1,69,027

	L	TTh	Th	H	T	O
	6	9	13		8	16
	7	0	3	2	9	6
–	5	3	4	2	6	9
	1	6	9	0	2	7

1,69,027 is the number which is 7,03,296 greater than 5,34,269

9. Required number = $67,203 - 34,291$
 $= 32,912$

Hence, 32,912 is the number which 34,291 smaller than 67,203.

	TTh	Th	H	T	O
		6	11	10	
	6	7	2	0	3
-	3	4	2	9	1
	3	2	9	1	2

Assessment Time 3.5

1. Simplify the following:

a. $52365 - 23045 - 30962 + 189965$

Sum of Positive

Sum of Negative

Numbers

Numbers

Now,

	L	TTh	Th	H	T	O
	1	1	1	1	1	
		5	2	3	6	5
+	1	8	9	9	6	5
	2	4	2	3	3	0

	L	TTh	Th	H	T	O
			1	1		
		2	3	0	4	5
+		3	0	9	6	2
		5	4	0	0	7

	L	TTh	Th	H	T	O
	1	13	12		2	10
	2	4	2	3	3	0
-		5	4	0	0	7
	1	8	8	3	2	3

b. $243285 - 62829 - 90635 - 2837$

Sum of Negative

Numbers

Now,

	L	TTh	Th	H	T	O
			2	1	2	
		6	2	8	2	9
		9	0	6	3	5
+			2	8	3	7
	1	5	6	3	0	1

	L	TTh	Th	H	T	O
	1	13	12	12		
	2	4	2	2	8	5
-	1	5	6	3	0	1
	0	8	6	9	8	4

c. $453628 - 306452 + 203694 - 89634$

Sum of Positive

Sum of Negative

Numbers

Numbers

Now,

	L	TTh	Th	H	T	O
			1	1	1	
	4	5	3	6	2	8
+	2	0	3	6	9	4
	6	5	7	3	2	2

	L	TTh	Th	H	T	O
		1	1			
	3	0	6	4	5	2
+		8	9	6	3	4
	3	9	6	0	8	6

	L	TTh	Th	H	T	O
	5	15		2	11	12
	2	5	7	3	2	2
-	3	9	6	0	8	6
	2	6	1	2	3	6

d. $745628 + 570632 - 97634$

Sum of Positive

Numbers

	L	TTh	Th	H	T	O
	1		1		1	
	7	4	5	6	2	8
+	5	7	0	6	3	2
	1	3	1	6	2	6

Now,

	L	TTh	Th	H	T	O
	2	10	15	12	5	10
	1	3	1	6	2	8
-		9	7	6	3	4
	1	2	1	8	6	2

2. Reena earns annually = ₹ 9,38,450

Reena spend on household expenses = ₹ 6,28,680

Reena spend on education of children = ₹ 1,20,570

She save in one year = ₹ $\{9,38,450 - (6,28,680 + 1,20,570)\}$
 $= 9,38,450 - 7,49,250$

	L	TTh	Th	H	T	O
			1	1		
	6	2	8	6	8	0
+	1	2	0	5	7	0
	7	4	9	2	5	0

	L	TTh	Th	H	T	O
	8	12	18			
	3	3	3	4	5	0
-	7	4	9	2	5	0
	1	8	9	2	0	0

$= 1,89,200$

3. Population of a town = 4,28,560

Number of men = 95,650

Number of women = 99,360

Number of children = $\{4,28,560 - (95,650 + 99,360)\}$

	L	TTh	Th	H	T	O
		1	1	1		
	9	5	6	5	0	
+	9	9	3	6	0	
	1	9	5	0	1	0

	L	TTh	Th	H	T	O
	3	12				
	3	3	8	5	6	0
-	1	9	5	0	1	0
	2	3	3	5	5	0

$= 2,33,550$

4. Total cost of car = ₹ 7,38,950

Rajesh has money = ₹ 2,89,680

His father give = ₹ 2,30,090

He needed money = ₹ $\{7,38,950 - (2,89,680 + 2,30,090)\}$

	L	TTh	Th	H	T	O
	1			1		
	2	8	9	6	8	0
+	2	3	0	0	9	0
	5	1	9	7	7	0

	L	TTh	Th	H	T	O
	2	18	8	15		
	7	3	8	8	5	0
-	5	1	9	7	7	0
	2	1	9	1	8	0

$$= 2,19,180$$

Rajesh need ₹ 2,19,180 to buy the car.

5. Total number of book in college = 30,586

Number of English books = 2,856

Number of Hindi books = 3,245

Number of Maths books = 2,037

Remaining books of other subject

$$= 30,586 - (2,856 + 3,245 + 2,037)$$

$$= 22,448$$

Hence, the number of remaining books is 22,448.

	Th	H	T	O
	1	1	1	
	2	8	5	6
	3	2	4	5
+	2	0	3	7
	8	1	3	8

	TTh	Th	H	T	O
	2	10		7	16
	3	8	5	8	6
-		8	1	3	8
	2	2	4	4	8

6. $(4966328 + 5832897) - (576028 + 309638)$

	TL	L	TTh	Th	H	T	O
	1			1	1	1	
	4	9	6	6	3	2	8
+	5	8	3	2	8	9	7
	1	0	7	9	9	2	5

	L	TTh	Th	H	T	O
	1			1		
	5	7	6	0	2	8
+	3	0	9	6	3	8
	8	8	5	6	6	6

	TL	L	TTh	Th	H	T	O
	0	9	17		8	11	15
	1	8	7	9	8	2	5
-			8	8	5	6	6
		9	9	1	3	5	9

$$= 9913559$$

7. $963287 - (43756 + 428954)$

	L	TTh	Th	H	T	O
		1	1	1	1	
		4	3	7	5	6
+	4	2	8	9	5	4
	4	7	2	7	1	0

	L	TTh	Th	H	T	O
	8	16	2	12		
	8	6	3	2	8	7
-	4	7	2	7	1	0
	4	9	0	5	7	7

Assessment Time 3.6

1. Find the estimated difference of the following by rounding off each number to the nearest 10. Also compare it with actual difference:

a. $6325 - 4163$

Actual sum

	Th	H	T	O
		2	12	
	6	3	2	5
-	4	1	6	3
	2	1	6	2

Estimated sum

	Th	H	T	O
		2	13	
	6	3	3	0
-	4	1	6	0
	2	1	7	0

(Nearest 10)

(Nearest 10)

The actual difference 2162 is very close to the estimated difference 2170.

b. $60829 - 38262$

Actual sum

	TTh	Th	H	T	O
	5	10	7	12	
	6	0	8	2	9
-	3	8	2	6	2
	2	2	5	6	7

Estimated sum

	TTh	Th	H	T	O
	5	10	7	13	
	6	0	8	3	0
-	3	8	2	6	0
	2	2	5	7	0

(Nearest 10)

(Nearest 10)

The actual difference 22567 is very close to the estimated difference 22570.

c. $712892 - 503849$

Actual difference

	L	TTh	Th	H	T	O
		0	12		8	12
	7	1	2	8	9	2
-	5	0	3	8	4	9
	2	0	9	0	4	3

Estimated difference

	L	TTh	Th	H	T	O
		0	12			
	7	1	2	8	9	2
-	5	0	3	8	5	0
	2	0	9	0	4	0

(Nearest 10)

(Nearest 10)

The actual difference 209043 is very close to the estimated difference 209040.

d. $772897 - 528516$

Actual difference

	L	TTh	Th	H	T	O
		6	12			
	7	7	2	8	9	7
-	5	2	8	5	1	6
	2	4	4	3	8	1

Estimated difference

	L	TTh	Th	H	T	O
		6	12	8	10	
	7	7	2	8	9	0
-	5	2	8	5	2	0
	2	4	4	3	8	0

(Nearest 10)

(Nearest 10)

The actual difference 244381 is very close to the estimated difference 244380.

2. Find the estimated difference of the following by rounding off each number to the nearest 100. Also compare it with actual difference:

a. $82839 - 76284$

Actual difference

	TTh	Th	H	T	O
	7	12	7	13	
	8	2	8	3	9
-	7	6	2	8	4
	0	6	5	5	5

Estimated difference

	TTh	Th	H	T	O
	7	12			
	8	2	8	0	0
-	7	6	3	0	0
		6	5	0	0

(Nearest 100)

(Nearest 100)

The actual difference 6555 is very close to the estimated difference 6500.

b. $47259 - 22834$

Actual difference

	TTh	Th	H	T	O
		6	12		
	4	7	2	5	9
-	2	2	8	3	4
	2	4	4	2	5

Estimated difference

	TTh	Th	H	T	O
		6	13		
	4	7	2	0	0
-	2	2	8	0	0
	2	4	5	0	0

(Nearest 100)

(Nearest 100)

The actual difference 24425 is very close to the estimated difference 24500.

c. $572896 - 334322$

Actual difference

	L	TTh	Th	H	T	O
		6	12			
	5	7	2	8	9	6
-	3	3	4	3	2	2
	2	3	8	5	7	4

Estimated difference

	L	TTh	Th	H	T	O
		6	12			
	5	7	2	9	0	0
-	3	3	4	3	0	0
	2	3	8	6	0	0

(Nearest 100)

(Nearest 100)

The actual difference 238574 is very close to the estimated difference 238600.

d. $683728 - 328564$

Actual difference

	L	TTh	Th	H	T	O
		7	13	6	12	
	6	8	3	7	2	8
-	3	2	8	5	6	4
	3	5	5	1	6	4

Estimated difference

	L	TTh	Th	H	T	O
		7	13			
	6	8	3	7	0	0
-	3	2	8	6	0	0
	3	5	5	1	0	0

(Nearest 100)

(Nearest 100)

The actual difference 355164 is very close to the estimated difference 355100.

3. Find the estimated difference of the following by rounding off each number to nearest 1000. Also compare it with actual difference:

a. $43285 - 12896$

Actual difference

	TTh	Th	H	T	O
		2	11	17	15
	4	3	2	8	5
-	1	2	8	9	6
	3	0	3	8	9

Estimated difference

	TTh	Th	H	T	O
	4	3	0	0	0
-	1	3	0	0	0
	3	0	0	0	0

(Nearest 1000)

(Nearest 1000)

The actual difference 30389 is very close to the estimated difference 30000.

b. $84328 - 67563$

Actual difference

	TTh	Th	H	T	O
	7	13	12	12	
	8	4	3	2	8
-	6	7	5	6	3
	1	6	7	6	5

Estimated difference

	TTh	Th	H	T	O
	7	14			
	8	4	0	0	0
-	6	8	0	0	0
	1	6	0	0	0

(Nearest 1000)

(Nearest 1000)

The actual difference 16765 is very close to the estimated difference 16000.

c. $828563 - 502341$

Actual difference

	L	TTh	Th	H	T	O
	8	2	8	5	6	3
-	5	0	2	3	4	1
	3	2	6	2	2	2

Estimated difference

	L	TTh	Th	H	T	O
	8	2	9	0	0	0
-	5	0	2	0	0	0
	3	2	7	0	0	0

(Nearest 1000)

(Nearest 1000)

The actual difference 326222 is very close to the estimated difference 327000.

d. $572637 - 302432$

Actual difference

	L	TTh	Th	H	T	O
	5	7	2	6	3	7
-	3	0	2	4	3	2
	2	7	0	2	0	5

Estimated difference

	L	TTh	Th	H	T	O
	5	7	3	0	0	0
-	3	0	2	0	0	0
	2	7	1	0	0	0

(Nearest 1000)

(Nearest 1000)

The actual difference 270205 is very close to the estimated difference 271000.

4. People come for circus on first day = 23,540

People come for circus on second day = 22,690

The values nearest to 100 = 23,500 and 22,700

	TTh	Th	H	T	O
	2	15			
	2	3	5	0	0
-	2	2	7	0	0
	0	0	8	0	0

Difference = $23,500 - 22,700 = 800$

The difference between people in both days by rounding off the number to the nearest 100 is 800.

5. Profit in year 2022 = ₹ 65,85,890

Profit in year 2023 = ₹ 48,96,540

The values nearest to thousands = 65,86,000 and 48,97,000

Difference = 65,86,000 - 48,97,000 = 1689000

TL	L	TTh	Th	H	T	O
5	14	17	16			
6	5	8	6	0	0	0
-	4	8	9	7	0	0
	1	6	8	9	0	0

Critical Thinking Skills

Total marks of red, white and blue = 1950 + 1460 + 1884
= 5294

More marbles = 6,000 - 5294 = 706

Mental Maths

Put '>', '<' or '=' in the blank boxes.

1. 7632 + 4 7648 - 8 2. 5728 - 6 5724 + 2

3. 7610 - 10 7680 - 100 4. 3738 + 1 3838 - 10

5. 60584 - 100 61289 - 100

Multiple choice Questions

Tick (✓) the correct option:

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

CHAPTER-4: Multiplication

Assessment Time 4.1

1. Using multiplication tables, fill in the blanks:

a. $12 \times 8 =$ 96 b. $13 \times 9 =$ 117 c. $18 \times 6 =$ 108

d. $19 \times 3 =$ 57 e. $17 \times 6 =$ 102 f. $19 \times 6 =$ 114

g. $15 \times 7 =$ 105 h. $14 \times 5 =$ 70 i. $20 \times 6 =$ 120

j. $13 \times 8 =$ 104 k. $18 \times 5 =$ 90 l. $12 \times 6 =$ 72

m. $17 \times 9 =$ 153 n. $18 \times 9 =$ 162 o. $14 \times 8 =$ 112

p. $13 \times 6 =$ 78

Assessment Time 4.2

1. Find the product:

- a. $436 \times 10 = 4360$ b. $519 \times 10 = 5190$
 c. $8436 \times 10 = 84360$ d. $72 \times 100 = 7200$
 e. $392 \times 100 = 39200$ f. $436 \times 100 = 43600$
 g. $61 \times 1000 = 61000$ h. $928 \times 1000 = 928000$

2. Find the product:

- a. $37 \times 20 = (37 \times 2) \times 10 = 74 \times 10 = 740$
 b. $632 \times 40 = (632 \times 4) \times 10 = 2528 \times 10 = 25280$
 c. $784 \times 70 = (784 \times 7) \times 10 = 5488 \times 10 = 54880$
 d. $53 \times 200 = (53 \times 2) \times 100 = 106 \times 100 = 10600$
 e. $587 \times 500 = (587 \times 5) \times 100 = 2935 \times 100 = 293500$
 f. $65 \times 800 = (65 \times 8) \times 100 = 520 \times 100 = 52000$
 g. $93 \times 7000 = (93 \times 7) \times 1000 = 651 \times 1000 = 651000$
 h. $59 \times 4000 = (59 \times 4) \times 1000 = 236 \times 1000 = 236000$

3. Multiply the following by using suitable grouping of the numbers:

- a. $125 \times 27 \times 8 = 27 \times (125 \times 8) = 27 \times 1000 = 27000$
 b. $50 \times 4 \times 96$
 $= 96 \times (50 \times 4) = 96 \times 200 = 19200$
 c. $25 \times 48 \times 4$
 $48 \times (25 \times 4) = 48 \times 100 = 4800$
 d. $73 \times 20 \times 50$
 $= 73 \times (20 \times 50) = 73 \times 1000 = 73000$

Assessment Time 4.3

1. Multiply the following:

a.

Tt	Th	H	T	O
		2	3	
		9	3	5
		×	4	7
	6	5	4	5
3	7	4	0	0
4	3	9	4	5

b.

Tt	Th	H	T	O
		7	5	6
		×	3	7
	5	2	9	2
2	2	6	8	0
2	7	9	7	2

c.

L	Tt	Th	H	T	O
		6	2	5	8
		×	7	6	
	3	7	5	4	8
4	3	8	0	6	0
4	7	5	6	0	8

2. Arrange in columns and find the product of the following:

a. 827×65

	TTh	Th	H	T	O
			8	2	7
×				6	5
		4	1	3	5
+	4	9	6	2	0
	5	3	7	5	5

b. 374×28

	TTh	Th	H	T	O
			3	7	4
×				2	8
		2	9	9	2
+		7	4	8	0
	1	0	4	7	2

c. 738×87

	TTh	Th	H	T	O
			7	3	8
×				8	7
		5	1	6	6
+	5	9	0	4	0
	6	4	2	0	6

d. 534×34

	TTh	Th	H	T	O
			5	3	4
×				3	4
		2	1	3	6
+	1	6	0	2	0
	1	8	1	5	6

3. Arrange in column and find the product of the following:

a. 6385×65

	L	TTh	Th	H	T	O
			6	3	8	5
×					6	5
		3	1	9	2	5
+	3	8	3	1	0	0
	4	1	5	0	2	5

b. 7128×52

	L	TTh	Th	H	T	O
			7	1	2	8
×					5	2
		1	4	2	5	6
+	3	5	6	4	0	0
	3	7	0	6	5	6

c. 4738×76

	L	TTh	Th	H	T	O
			3	7	3	8
×					7	6
		2	8	4	2	8
+	3	3	1	6	6	0
	3	6	0	0	8	8

d. 6453×38

	L	TTh	Th	H	T	O
			6	4	5	3
×					3	8
		5	1	6	2	4
+	1	9	3	5	9	0
	2	4	5	2	1	4

Assessment Time 4.4

1. Multiply the following:

a.

	L	TTh	Th	H	T	O
				8	3	6
×				3	2	8
			6	6	8	8
		1	6	7	2	0
+	2	5	0	8	0	0
	2	7	4	2	0	8

b.

	L	TTh	Th	H	T	O
				7	3	9
×				4	1	7
			5	1	7	3
			7	3	9	0
+	2	9	5	6	0	0
	3	0	8	1	6	3

c.

	L	TTh	Th	H	T	O
			5	7	2	8
×				2	4	6
		3	4	3	6	8
	2	2	9	1	2	0
+	1	4	5	6	0	0
	1	4	0	9	0	8

d.

	L	TTh	Th	H	T	O
			7	0	0	8
×				5	3	7
		4	9	0	5	6
	2	1	0	2	4	0
+	5	0	4	0	0	0
	3	7	6	3	2	9

2. Arrange in columns and find the product of the following:

a. 467×318

	L	TTh	Th	H	T	O
				4	6	7
×				3	1	8
			3	7	3	6
			4	6	7	0
+	1	4	0	1	0	0
	1	4	8	5	0	6

b. 679×324

	L	TTh	Th	H	T	O
				6	7	9
×				3	2	4
			2	7	1	6
		1	3	5	8	0
+	2	0	3	7	0	0
	2	1	9	9	9	6

c. 5728×463

	TL	L	TTh	Th	H	T	O
				5	7	2	8
×					4	6	3
			1	7	1	8	4
		3	4	3	6	8	0
+	2	2	9	1	2	0	0
	2	6	5	2	0	6	4

d. 3928×469

	TL	L	TTh	Th	H	T	O
				3	9	2	8
×					4	6	9
			3	5	3	5	2
		2	3	5	6	8	0
+	1	5	7	1	2	0	0
	1	8	4	2	2	3	2

Assessment Time 4.5

- School fees of a student per months = ₹ 3,865

School fees for a student of one year = ₹ 3,865 × 12

= ₹ 46,380

School fees of 489 students of one year = ₹ 46,380 × 489

= ₹ 2,26,79,820

	TTh	Th	H	T	O
		3	8	6	5
×				1	2
		7	7	3	0
+	3	8	6	5	0
	4	6	3	8	0

	TL	L	TTh	Th	H	T	O
			4	6	3	8	0
×					4	8	9
		4	1	7	4	2	0
	3	7	1	0	4	0	0
1	8	5	5	2	0	0	0
2	2	6	7	9	8	2	0

- Number of pages in 1 book = 576

Number of pages in 136 books = 576 × 136

= 78,336

Hence, there are 78,336 pages in 136 books.

	TTh	Th	H	T	O
			5	7	6
×			1	3	6
		3	4	5	6
	1	7	2	8	0
+	5	7	6	0	0
	7	8	3	3	6

- Cost of one table = ₹ 3966

Cost of 76 tables = ₹ 3966 × 76

= ₹ 3,01,416

Hence, the cost of 76 tables is ₹ 3,01,416

	L	TTh	Th	H	T	O
			3	9	6	6
×					7	6
		2	3	7	9	6
+	2	7	7	6	2	0
	3	0	1	4	1	6

- Cost of a LED = ₹ 49,995

Cost of 68 such LED = ₹ 49,995 × 68

= ₹ 33,99,660

Hence, the cost of 68 LED is ₹ 33,99,660

	TL	L	TTh	Th	H	T	O
			4	9	9	9	5
×						6	8
		3	9	9	9	6	0
	2	9	9	9	7	0	0
	3	3	9	9	6	6	0

5. Weight of one bag of wheat = 105 kg
 Weight of 345 bags of wheat = 105×345
 $= 36,225$ kg
 Hence, the weight of 345 bags is 36,225 kg

	TTh	Th	H	T	O
			3	4	5
×			1	0	5
		1	7	2	5
	0	0	0	0	0
+	3	4	5	0	0
	3	6	2	2	5

6. Number of plants in one row = 680
 Number of plants in 387 rows
 $= 680 \times 387$
 $= 2,63,160$
 Hence, there are 2,63,160 plants in 387 rows.

	TTh	Th	H	T	O
			3	8	7
×			6	8	0
		0	0	0	0
	3	0	9	6	0
+	2	3	3	3	0
	2	6	3	1	6

7. Water a tank can hold = 6385 L
 Water in 35 such tanks = 6385×35
 $= 2,23,475$ L
 Hence, there are 2,23,475 L of water in 35 such tanks.

	L	TTh	Th	H	T	O
			6	3	8	5
×					3	5
		3	1	9	2	5
	1	9	1	5	5	0
	2	2	3	4	7	5

8. Machine produce bolts in one day = 2074
 Machine produce bolt in month of April
 $= 2074 \times 30$
 $= 62220$
 Hence, machine produces 62220 bolts in the month of April

	TTh	Th	H	T	O
		2	0	7	4
×				3	0
		0	0	0	0
	6	2	2	2	0
	6	2	2	2	0

9. Number of pencils in a big box = 224
 Number of pencils in 52 boxes = 224×52
 $= 11,648$
 Hence, there are 11,648 pencils in 52 boxes

	TTh	Th	H	T	O
			2	2	4
×				5	2
			4	4	8
	1	1	2	0	0
	1	1	6	4	8

SDG

Sheenu travels daily = 78 km

She will travel in 286 days = 286×78
= 22308 km

	Tt	Th	H	T	O
			2	8	6
$\times$				7	8
		2	2	8	8
	2	0	0	2	0
	2	2	3	0	8

Mental Math

- $73 \times 250 \times 4 = 73000$
- $125 \times 87 \times 8 = 87000$
- $25 \times 58 \times 40 = 58000$
- $78 \times 20 \times 30 = 46800$
- $50 \times 57 \times 400 = 114000$

Multiple Choice Questions

Tick (✓) the correct option:

- (b)
- (d)
- (b)
- (c)
- (b)

CHAPTER 5: Division

Assessment Time 5.1

1. Find the quotient and the remainder:

a. $4143 \div 8$

$$\begin{array}{r} 517 \\ 8 \overline{) 4143} \\ \underline{-40} \downarrow \\ 14 \downarrow \\ \underline{-8} \downarrow \\ 63 \downarrow \\ \underline{-56} \\ 7 \end{array}$$

Q = 517, R = 7

b. $5096 \div 7$

$$\begin{array}{r} 728 \\ 7 \overline{) 5096} \\ \underline{-49} \downarrow \\ 19 \downarrow \\ \underline{-14} \downarrow \\ 56 \downarrow \\ \underline{-56} \\ 0 \end{array}$$

Q = 728, R = 0

c. $7725 \div 6$

$$\begin{array}{r} 1287 \\ 6 \overline{) 7725} \\ \underline{-6} \downarrow \\ 17 \downarrow \\ \underline{-12} \downarrow \\ 52 \downarrow \\ \underline{-48} \downarrow \\ 45 \downarrow \\ \underline{-40} \\ 5 \end{array}$$

Q = 1287, R = 5

d. $6728 \div 5$

$$\begin{array}{r}
 1345 \\
 5 \overline{) 6728} \\
 \underline{-5} \downarrow \downarrow \downarrow \\
 17 \downarrow \downarrow \\
 \underline{-15} \downarrow \downarrow \\
 22 \downarrow \\
 \underline{-20} \downarrow \\
 28 \\
 \underline{-25} \\
 3
 \end{array}$$

Q = 1245, R = 3

e. $9163 \div 4$

$$\begin{array}{r}
 2290 \\
 4 \overline{) 9163} \\
 \underline{-8} \downarrow \downarrow \downarrow \\
 11 \downarrow \downarrow \\
 \underline{-8} \downarrow \downarrow \\
 36 \downarrow \\
 \underline{-36} \downarrow \\
 03 \\
 \underline{-00} \\
 3
 \end{array}$$

Q = 2290, R = 3

f. $5694 \div 7$

$$\begin{array}{r}
 813 \\
 7 \overline{) 5694} \\
 \underline{-56} \downarrow \downarrow \\
 09 \downarrow \\
 \underline{-7} \downarrow \\
 24 \\
 \underline{-21} \\
 3
 \end{array}$$

Q = 813, R = 3

g. $58379 \div 6$

$$\begin{array}{r}
 9729 \\
 6 \overline{) 58379} \\
 \underline{-54} \downarrow \downarrow \downarrow \\
 43 \downarrow \downarrow \\
 \underline{-42} \downarrow \downarrow \\
 17 \downarrow \\
 \underline{-12} \downarrow \\
 59 \\
 \underline{-54} \\
 5
 \end{array}$$

Q = 9729, R = 5

h. $602784 \div 5$

$$\begin{array}{r}
 120556 \\
 5 \overline{) 602784} \\
 \underline{-5} \downarrow \downarrow \downarrow \downarrow \\
 10 \downarrow \downarrow \downarrow \\
 \underline{-10} \downarrow \downarrow \downarrow \\
 027 \downarrow \downarrow \\
 \underline{-025} \downarrow \downarrow \\
 28 \downarrow \\
 \underline{-25} \downarrow \\
 34 \\
 \underline{-30} \\
 4
 \end{array}$$

Q = 120556, R = 4

2. Find the quotient and the remainder. Also verify your answer:

a. $67023 \div 4$

$$\begin{array}{r} 16755 \\ 4 \overline{) 67023} \\ \underline{-4} \\ 27 \\ \underline{-24} \\ 30 \\ \underline{-28} \\ 22 \\ \underline{-20} \\ 23 \\ \underline{-20} \\ 3 \end{array}$$

$Q = 16755, R = 3$

Verification

Dividend = Quotient $\times$ divisor + remainder

$$\begin{aligned} 67023 &= 16755 \times 4 + 3 \\ &= 67020 + 3 \\ &= 67023 \end{aligned}$$

b. $57916 \div 7$

$$\begin{array}{r} 8273 \\ 7 \overline{) 57916} \\ \underline{-56} \\ 19 \\ \underline{-14} \\ 51 \\ \underline{-49} \\ 26 \\ \underline{-21} \\ 5 \end{array}$$

$Q = 8273, R = 5$

Verification

$$\begin{aligned} 57916 &= 8273 \times 7 + 5 \\ &= 57911 + 5 \\ &= 57916 \end{aligned}$$

c. $89632 \div 3$

$$\begin{array}{r} 29877 \\ 3 \overline{) 89632} \\ \underline{-6} \\ 29 \\ \underline{-27} \\ 26 \\ \underline{-24} \\ 23 \\ \underline{-21} \\ 22 \\ \underline{-21} \\ 1 \end{array}$$

$Q = 29877, R = 1$

Verification

$$\begin{aligned} 89632 &= 29877 \times 3 + 1 \\ &= 89631 + 1 \\ &= 89632 \end{aligned}$$

d. $74285 \div 6$

$$\begin{array}{r} 12380 \\ 6 \overline{) 74285} \\ \underline{-6} \\ 14 \\ \underline{-12} \\ 22 \\ \underline{-18} \\ 48 \\ \underline{-48} \\ 05 \\ \underline{-00} \\ 5 \end{array}$$

$Q = 12380, R = 5$

Verification

$$\begin{aligned} 74285 &= 12380 \times 6 + 5 \\ &= 74280 + 5 \\ &= 74285 \end{aligned}$$

e. $54386 \div 5$

$$\begin{array}{r}
 10877 \\
 \overline{5 \overline{) 54386}} \\
 \underline{-5} \downarrow \downarrow \downarrow \downarrow \\
 043 \downarrow \downarrow \downarrow \\
 \underline{-40} \downarrow \downarrow \downarrow \\
 38 \downarrow \downarrow \downarrow \\
 \underline{-35} \downarrow \downarrow \downarrow \\
 36 \downarrow \downarrow \downarrow \\
 \underline{-35} \downarrow \downarrow \downarrow \\
 1
 \end{array}$$

Q = 10877, R = 1

Verification

$$\begin{aligned}
 54386 &= 10877 \times 5 + 1 \\
 &= 54385 + 1 \\
 &= 54386
 \end{aligned}$$

f. $91632 \div 8$

$$\begin{array}{r}
 11454 \\
 \overline{8 \overline{) 91632}} \\
 \underline{-7} \downarrow \downarrow \downarrow \downarrow \\
 11 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-8} \downarrow \downarrow \downarrow \downarrow \\
 36 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-32} \downarrow \downarrow \downarrow \downarrow \\
 43 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-40} \downarrow \downarrow \downarrow \downarrow \\
 32 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-32} \downarrow \downarrow \downarrow \downarrow \\
 0
 \end{array}$$

Q = 11454, R = 0

Verification

$$\begin{aligned}
 91632 &= 11454 \times 8 + 0 \\
 &= 91632 + 0 \\
 &= 91632
 \end{aligned}$$

g. $729634 \div 7$

$$\begin{array}{r}
 104233 \\
 \overline{7 \overline{) 729634}} \\
 \underline{-7} \downarrow \downarrow \downarrow \downarrow \\
 029 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-28} \downarrow \downarrow \downarrow \downarrow \\
 16 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-14} \downarrow \downarrow \downarrow \downarrow \\
 23 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-21} \downarrow \downarrow \downarrow \downarrow \\
 24 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-21} \downarrow \downarrow \downarrow \downarrow \\
 3
 \end{array}$$

Q = 104233, R = 3

VerificationDividend = Quotient $\times$ Divisor + Remainder

$$\begin{aligned}
 729634 &= 104234 \times 7 + 6 \\
 &= 729628 + 6 = 729634
 \end{aligned}$$

h. $576328 \div 9$

$$\begin{array}{r}
 64036 \\
 \overline{9 \overline{) 576328}} \\
 \underline{-54} \downarrow \downarrow \downarrow \downarrow \\
 36 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-36} \downarrow \downarrow \downarrow \downarrow \\
 032 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-27} \downarrow \downarrow \downarrow \downarrow \\
 58 \downarrow \downarrow \downarrow \downarrow \\
 \underline{-54} \downarrow \downarrow \downarrow \downarrow \\
 4
 \end{array}$$

Q = 64036, R = 4

Verification

$$\begin{aligned}
 576328 &= 64036 \times 9 + 4 \\
 &= 576324 + 4 = 576328
 \end{aligned}$$

3. Dividend = Divisor $\times$ Quotient + remainder
 $= 8 \times 521 + 3 = 4168 + 3 = 4171$
4. Dividend = Divisor $\times$ Quotient + remainder
 $= 9 \times 617 + 4 = 5553 + 4 = 5557$

Assessment Time 5.2

1. Find the quotient and the remainder:

a. $53825 \div 12$

$$\begin{array}{r} 4485 \\ 12 \overline{) 53825} \\ \underline{-48} \\ 58 \\ \underline{-48} \\ 102 \\ \underline{-96} \\ 65 \\ \underline{-60} \\ 5 \end{array}$$

Q = 4485, R = 5

b. $47294 \div 18$

$$\begin{array}{r} 2627 \\ 18 \overline{) 47294} \\ \underline{-36} \\ 112 \\ \underline{-108} \\ 49 \\ \underline{-36} \\ 134 \\ \underline{-126} \\ 8 \end{array}$$

Q = 2627, R = 8

c. $57263 \div 23$

$$\begin{array}{r} 2489 \\ 23 \overline{) 57263} \\ \underline{-46} \\ 112 \\ \underline{-92} \\ 206 \\ \underline{-184} \\ 223 \\ \underline{-207} \\ 16 \end{array}$$

Q = 2489, R = 16

d. $45692 \div 32$

$$\begin{array}{r} 1427 \\ 32 \overline{) 45692} \\ \underline{-32} \\ 136 \\ \underline{-128} \\ 89 \\ \underline{-64} \\ 252 \\ \underline{-224} \\ 28 \end{array}$$

Q = 1427, R = 28

e. $98376 \div 36$

$$\begin{array}{r}
 2732 \\
 36 \overline{) 98376} \\
 \underline{-72} \downarrow \\
 263 \\
 \underline{-252} \downarrow \\
 117 \\
 \underline{-108} \downarrow \\
 96 \\
 \underline{-72} \\
 24
 \end{array}$$

Q = 2732, R = 24

f. $76384 \div 42$

$$\begin{array}{r}
 1818 \\
 42 \overline{) 76384} \\
 \underline{-42} \downarrow \\
 343 \\
 \underline{-336} \downarrow \\
 78 \\
 \underline{-42} \downarrow \\
 364 \\
 \underline{-336} \\
 28
 \end{array}$$

Q = 1818, R = 28

g. $736248 \div 53$

$$\begin{array}{r}
 13891 \\
 53 \overline{) 736248} \\
 \underline{-53} \downarrow \\
 206 \\
 \underline{-159} \downarrow \\
 472 \\
 \underline{-424} \downarrow \\
 484 \\
 \underline{-477} \downarrow \\
 78 \\
 \underline{-53} \\
 25
 \end{array}$$

Q = 13891, R = 25

h. $932854 \div 64$

$$\begin{array}{r}
 14575 \\
 64 \overline{) 932854} \\
 \underline{-64} \downarrow \\
 292 \\
 \underline{-256} \downarrow \\
 368 \\
 \underline{-320} \downarrow \\
 485 \\
 \underline{-448} \downarrow \\
 374 \\
 \underline{-320} \\
 54
 \end{array}$$

Q = 14575, R = 54

2. Find the quotient and the remainder. Also verify your answer:

a. $47632 \div 18$

$$\begin{array}{r}
 2646 \\
 18 \overline{) 47632} \\
 \underline{-36} \\
 116 \\
 \underline{-108} \\
 83 \\
 \underline{-72} \\
 112 \\
 \underline{-108} \\
 4
 \end{array}$$

$Q = 2646, R = 4$

Verification

Dividend = Quotient $\times$ Divisor + Remainder

$$\begin{aligned}
 47632 &= 2646 \times 18 + 4 \\
 &= 47628 + 4 \\
 &= 47632
 \end{aligned}$$

b. $61432 \div 21$

$$\begin{array}{r}
 2925 \\
 21 \overline{) 61432} \\
 \underline{-42} \\
 194 \\
 \underline{-189} \\
 53 \\
 \underline{-42} \\
 112 \\
 \underline{-105} \\
 7
 \end{array}$$

$Q = 2925, R = 7$

Verification

$$\begin{aligned}
 61432 &= 2925 \times 21 + 7 \\
 &= 61425 + 7 \\
 &= 61432
 \end{aligned}$$

c. $27962 \div 33$

$$\begin{array}{r}
 847 \\
 33 \overline{) 27962} \\
 \underline{-264} \\
 156 \\
 \underline{-132} \\
 242 \\
 \underline{-231} \\
 11
 \end{array}$$

$Q = 847, R = 11$

Verification

Dividend = Quotient $\times$ Divisor + Remainder

$$\begin{aligned}
 27962 &= 847 \times 33 + 11 \\
 &= 27951 + 11 \\
 &= 27962
 \end{aligned}$$

d. $676328 \div 65$

$$\begin{array}{r}
 10405 \\
 65 \overline{) 676328} \\
 \underline{-65} \\
 263 \\
 \underline{-260} \\
 328 \\
 \underline{-325} \\
 3
 \end{array}$$

$Q = 10405, R = 3$

Verification

$$\begin{aligned}
 676328 &= 10405 \times 65 + 3 \\
 &= 676325 + 3 \\
 &= 676328
 \end{aligned}$$

f. $490632 \div 73$

$$\begin{array}{r} 6720 \\ 73\overline{)490632} \\ \underline{-438} \downarrow \\ 526 \downarrow \\ \underline{-511} \downarrow \\ 153 \downarrow \\ \underline{-146} \downarrow \\ 72 \downarrow \\ 0 \downarrow \\ 72 \end{array}$$

$$Q = 6720, R = 72$$

Verification

$$719823 = 12628 \times 57 + 27$$

$$\begin{aligned} 490632 &= 6720 \times 73 + 72 \\ &= 490560 + 72 \\ &= 490632 \end{aligned}$$

h. $263285 \div 42$

$$\begin{array}{r} 6268 \\ 42 \overline{) 263285} \\ \underline{-252} \downarrow \\ 112 \downarrow \\ \underline{-84} \downarrow \\ 288 \downarrow \\ \underline{-252} \downarrow \\ 365 \downarrow \\ \underline{-336} \\ 29 \end{array}$$

$$Q = 6268, R = 29$$

Verification

$$181465 = 6257 \times 29 + 12$$

$$\begin{aligned} 263285 &= 6268 \times 42 + 29 \\ &= 263256 + 29 \\ &= 263285 \end{aligned}$$

3. Dividend = Divisor $\times$ Quotient + Remainder

$$6270 = \text{Divisor} \times 68 + 14$$

$$6270 - 14 = 68 \times \text{Divisor}$$

$$6256 = 68 \times \text{Divisor}$$

$$\text{Divisor} = \frac{6256}{68} = 92$$

4. Dividend = Divisor $\times$ Quotient + Remainder

$$= 56 \times 347 + 47$$

$$= 19432 + 47$$

$$= 19479$$

Assessment Time 5.3

1. Find the quotient and the remainder:

a. $5328 \div 10$

$$Q = 532, R = 8$$

b. $7634 \div 10$

$$Q = 763, R = 4$$

c. $30283 \div 10$

$$Q = 3028, R = 3$$

d. $85639 \div 10$

$$Q = 8563, R = 9$$

2. Find the quotient and the remainder:

a. $4683 \div 100$

$$Q = 46, R = 83$$

b. $82370 \div 100$

$$Q = 823, R = 7$$

c. $91634 \div 100$

$$Q = 916, R = 34$$

d. $751286 \div 100$

$$Q = 7512, R = 86$$

3. Find the quotient and the remainder:

a. $51281 \div 1000$

$$Q = 51, R = 281$$

b. $87283 \div 1000$

$$Q = 87, R = 283$$

c. $67234 \div 1000$

$$Q = 67, R = 234$$

d. $516238 \div 1000$

$$Q = 516, R = 238$$

Assessment Time 5.4

1. Cost of 18 scientific calculators = ₹ 42570

$$\text{Cost of 1 scientific calculator} = ₹ \frac{42570}{18}$$

$$\begin{array}{r}
 2365 \\
 18 \overline{) 42570} \\
 \underline{-36} \downarrow \\
 65 \downarrow \\
 \underline{-54} \downarrow \\
 117 \downarrow \\
 \underline{-108} \downarrow \\
 90 \\
 \underline{-90} \\
 0
 \end{array}$$

Hence, the cost of 1 scientific calculator is ₹ 2365.

2. Cost of 8 footballs = ₹ 1024

$$\begin{aligned}
 \text{Cost of 1 football} &= ₹ \frac{1024}{8} \\
 &= ₹ 128
 \end{aligned}$$

Hence, the cost of 1 football is ₹ 128

$$\begin{array}{r}
 128 \\
 8 \overline{) 1024} \\
 \underline{-8} \downarrow \\
 22 \downarrow \\
 \underline{-16} \downarrow \\
 64 \\
 \underline{-64} \\
 0
 \end{array}$$

3. Cost of 52 chairs = ₹ 18304

$$\begin{aligned}
 \text{Cost of 1 chair} &= ₹ \frac{18304}{52} \\
 &= ₹ 352
 \end{aligned}$$

Hence, the cost of 1 chair is ₹ 352.

$$\begin{array}{r}
 352 \\
 52 \overline{) 18304} \\
 \underline{-156} \downarrow \\
 270 \downarrow \\
 \underline{-260} \downarrow \\
 104 \\
 \underline{-104} \\
 0
 \end{array}$$

4. Number of plants planted in 72 row = 16488

$$\begin{aligned}
 \text{Number of plants planted in one row} &= \frac{16488}{72} \\
 &= 229
 \end{aligned}$$

Hence, 229 plants planted in one row.

$$\begin{array}{r}
 229 \\
 72 \overline{) 16488} \\
 \underline{-144} \downarrow \\
 208 \downarrow \\
 \underline{-144} \downarrow \\
 648 \\
 \underline{-648} \\
 0
 \end{array}$$

5. Number of boxes required to pack apples = $6272 \div 56$

$$\begin{array}{r}
 112 \\
 56 \overline{) 6272} \\
 \underline{-56} \downarrow \\
 67 \downarrow \\
 \underline{-56} \downarrow \\
 112 \downarrow \\
 \underline{-112} \\
 0
 \end{array}$$

Hence, 112 boxes is required to pack 6272 apples, if each box has 56 apples.

6. Number of packets required to pack rubbers = $20864 \div 64$

$$\begin{array}{r}
 326 \\
 64 \overline{) 20864} \\
 \underline{-192} \downarrow \\
 166 \downarrow \\
 \underline{-128} \downarrow \\
 384 \downarrow \\
 \underline{-384} \\
 0
 \end{array}$$

Hence, 326 packets are required to pack 20864 rubbers, if each packets has 64 rubbers.

7. Cost of 8 stools = ₹ 4496

$$\begin{aligned}
 \text{Cost of 1 stool} &= ₹ \frac{4496}{8} \\
 &= ₹ 562
 \end{aligned}$$

Hence, the cost of 1 stool is ₹ 562.

$$\begin{array}{r}
 562 \\
 8 \overline{) 4496} \\
 \underline{-40} \downarrow \\
 49 \downarrow \\
 \underline{-48} \downarrow \\
 16 \downarrow \\
 \underline{-16} \\
 0
 \end{array}$$

8. Number of persons travel in 56 buses = 3584

$$\begin{aligned}
 \text{Number of person travel in one bus} &= \frac{3584}{56} \\
 &= 64
 \end{aligned}$$

Hence, 64 persons travel in one bus.

$$\begin{array}{r}
 64 \\
 56 \overline{) 3584} \\
 \underline{-336} \downarrow \\
 224 \downarrow \\
 \underline{-224} \\
 0
 \end{array}$$

9.
$$\begin{array}{r} 1586 \\ 37 \overline{) 58693} \\ \underline{-37} \downarrow \downarrow \downarrow \downarrow \downarrow \\ 216 \\ \underline{-185} \downarrow \downarrow \downarrow \downarrow \downarrow \\ 319 \\ \underline{-296} \downarrow \downarrow \downarrow \downarrow \downarrow \\ 233 \\ \underline{-233} \\ 0 \end{array}$$
 Hence, the least required number is 11.

10. Product of two numbers = 59965
 One number = 67
 So, other number = $59965 \div 67$
 = 895

$$\begin{array}{r} 895 \\ 67 \overline{) 59965} \\ \underline{-536} \downarrow \downarrow \downarrow \downarrow \downarrow \\ 636 \\ \underline{-603} \downarrow \downarrow \downarrow \downarrow \downarrow \\ 335 \\ \underline{-335} \\ 0 \end{array}$$

Assessment Time 5.5

1. Cost of 3 jeans = ₹ 2697
 Cost of 1 jean = ₹ $\frac{2697}{3}$
 = ₹ 899
 Cost of 1 jeans = ₹ 899
 Cos of 5 jeans = ₹ 899×5
 = ₹ 4495
 Hence, the cost of 5 jeans is ₹ 4495.

$$\begin{array}{r} 899 \\ 3 \overline{) 2697} \\ \underline{-24} \downarrow \downarrow \downarrow \downarrow \downarrow \\ 29 \\ \underline{-27} \downarrow \downarrow \downarrow \downarrow \downarrow \\ 27 \\ \underline{-27} \\ 0 \end{array}$$

Th	H	T	O
	4	4	
	8	9	9
	×		5
4	4	9	5

2. Cost of 12 bananas = ₹ 60
 Cost of 1 banana = ₹ $\frac{60}{12}$ = ₹ 5
 Cost of 1 banana = ₹ 5
 Cost of 36 bananas = ₹ 5×36
 = ₹ 180

	H	T	O
		3	
		3	6
	×		5
1	8	0	

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3. Cost of 8 pencils = ₹ 72

$$\text{Cost of 1 pencil} = ₹ \frac{72}{8} = ₹ 9$$

$$\begin{aligned}\text{Cost of 57 pencil} &= ₹ 57 \times 9 \\ &= ₹ 513\end{aligned}$$

Hence, the cost of 57 pencils is ₹ 513.

4. Cost of 4 erasers = ₹ 32

$$\text{Cost of 1 eraser} = ₹ \frac{32}{4} = ₹ 8$$

$$\text{Number of eraser in 8 pack} = 8 \times 12 = 96$$

$$\begin{aligned}\text{Cost of 96 eraser} &= ₹ 8 \times 96 \\ &= ₹ 768\end{aligned}$$

Hence, the cost of 8 packets of erasers if each packet has 12 eraser is ₹ 768.

5. Cost of 4 mobile covers = ₹ 1460

$$\text{Cost of 1 mobile cover} = ₹ \frac{1460}{4} = ₹ 365$$

$$\begin{aligned}\text{Cost of 32 mobile covers} &= ₹ 365 \times 32 \\ &= ₹ 11,680\end{aligned}$$

Hence, the cost of 32 mobile cover is ₹ 11,680.

SDG

$$\text{Cost of 2 kg oranges} = ₹ 56$$

$$\text{So, cost of 1 kg oranges} = ₹ \frac{56}{2} = 28$$

$$\begin{aligned}\text{Thus, cost of 25 kg oranges} &= ₹ 28 \times 25 \\ &= ₹ 700\end{aligned}$$

	H	T	O
		6	
		5	7
	×		9
	5	1	3

	H	T	O
		4	
		9	6
	×		8
	7	6	8

	Tt	Th	H	T	O
			1	1	
			3	6	5
			×	3	2
			7	3	0
+	1	0	9	5	0
	1	1	6	8	0

	H	T	O
	1	1	
		2	8
	×	2	5
	1	4	0
+	5	6	0
	7	0	0

Mental Maths

- $5284 \div 5284 = 1$
- $6394 \div 0 = \text{Not defined}$
- $5028 \div (623 - 622) = 5028$
- The cost of 4 staplers is ₹ 72, so the cost of 12 staplers is **216**.
- The cost of 7 pens is ₹ 49, so the cost of 10 pens is **70**.

Multiple Choice Questions**Tick (✓) the correct option:**

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

SDG (Page 71)

1. Cost of 24 kg almonds = ₹ 20160
So, cost of 1 kg almonds = ₹ $\frac{20160}{24}$ = ₹ 840
2. Cost of 28 kg cashew = ₹ 27580
So, cost of 1 kg cashew = ₹ $\frac{27580}{28}$ = ₹ 985
3. Cost of 22 kg pistachio = ₹ 27280
So, cost of 1 kg pistachio = ₹ $\frac{27280}{22}$ = ₹ 1240
4. Cost of 32 kg walnuts = ₹ 33120
So, cost of 1 kg walnuts = ₹ $\frac{33120}{32}$ = ₹ 1035
5. Cost of 16 kg fig = ₹ 19776
So, cost of 1 kg fig = ₹ $\frac{19776}{16}$ = ₹ 1236

CHAPTER-6: FACTORS AND Multiples**Assessment Time 6.1****1. Find all the factors of the following numbers:**

- a. 12 can be written as
 $12 = 1 \times 12$, $12 = 2 \times 6$, $12 = 3 \times 4$
 Hence, the factors of 12 are 1, 2, 3, 4, 6 and 12
- b. 18 can be written as
 $18 = 1 \times 18$, $18 = 2 \times 9$, $18 = 3 \times 6$
 Hence, factors of 18 are 1, 2, 3, 6, 9 and 18
- c. 20 can be written as
 $20 = 1 \times 20$, $20 = 2 \times 10$, $20 = 4 \times 5$
 Hence, the factors of 20 are 1, 2, 4, 5, 10 and 20
- d. 30 can be written as
 $30 = 1 \times 30$, $30 = 2 \times 15$, $30 = 3 \times 10$, $30 = 5 \times 6$
 Hence, the factors of 30 are 1, 2, 3, 5, 6, 10, 15 and 30

e. 46 can be written as

$$46 = 1 \times 46, 46 = 2 \times 23$$

Hence, factors of 46 are 1, 2, 23 and 46

f. 50 can be written as

$$50 = 1 \times 50, 50 = 2 \times 25, 50 = 5 \times 10$$

Hence, factors of 50 are 1, 2, 5, 10, 25 and 50

g. 68 can be written as

$$68 = 1 \times 68, 68 = 2 \times 34, 68 = 4 \times 17$$

Hence, factors of 68 are 1, 2, 4, 17 and 68

h. 88 can be written as

$$88 = 1 \times 88, 88 = 2 \times 44, 88 = 4 \times 22, 88 = 8 \times 11$$

Hence, factors of 88 are 1, 2, 4, 8, 11, 22, 44 and 88

i. 96 can be written as

$$96 = 1 \times 96, 96 = 2 \times 48, 96 = 3 \times 32, 96 = 4 \times 24, 96 = 6 \times 16, 96 = 8 \times 12$$

Hence, factors of 96 are 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48 and 96

j. 100 can be written as

$$100 = 1 \times 100, 100 = 2 \times 50, 100 = 4 \times 25, 100 = 5 \times 20, 100 = 10 \times 10$$

Hence, factors of 100 are 1, 2, 4, 5, 10, 20, 25, 50 and 100

2. Is 9 a factor of 96?

$$\begin{array}{r} 10 \\ 9 \overline{) 96} \\ -9 \downarrow \\ \hline 06 \\ -00 \\ \hline 6 \end{array}$$

Since 9 does not divide 96 exactly

Hence, 9 is not a factor of 96

3. Is 5 a factor of 110?

$$\begin{array}{r} 22 \\ 5 \overline{) 110} \\ -10 \downarrow \\ \hline 10 \\ -10 \\ \hline 0 \end{array}$$

5 divides 110 exactly

Hence, 5 is a factor of 110.

4. Is 8 a factor of 348?

$$\begin{array}{r}
 43 \\
 \overline{8) 348} \\
 \underline{-32} \downarrow \\
 28 \\
 \underline{-24} \\
 4
 \end{array}$$

348 is not divisible by 8

Since 4 is the remainder

Hence, 8 is not a factor of 348

5. Is 7 a factor of 257?

$$\begin{array}{r}
 36 \\
 \overline{7) 257} \\
 \underline{-21} \downarrow \\
 47 \\
 \underline{-42} \\
 5
 \end{array}$$

257 is not divisible by 7

Since 5 is the remainder

Hence, 7 is not a factor of 257

Assessment Time 6.2

1. Write 'T' for true and 'F' for false the following statements:

a. T

b. T

c. T

d. T

2. Write the first five multiples of the following numbers:

a. 4 First five multiples of 4 = 4, 8, 12, 16, 20

b. 7 First five multiples of 7 = 7, 14, 21, 28, 35

c. 16 First five multiples of 16 = 16, 32, 48, 64, 80

d. 26 First five multiples of 26 = 26, 52, 78, 104, 130

3. Write:

a. 6th multiple of 9 = $9 \times 6 = 54$ b. 7th multiple of 13 = $13 \times 7 = 91$ c. 8th multiple of 12 = $12 \times 8 = 96$ d. 10th multiple of 19 = $19 \times 10 = 190$

4. Check, whether the:

a. 93 is a multiple of 10 or not.

93 is not exactly divisible by 9.

Hence, 93 is not a multiple of 10.

$$\begin{array}{r}
 10 \\
 \overline{9) 93} \\
 \underline{-9} \downarrow \\
 06 \\
 \underline{-00} \\
 6
 \end{array}$$

b. 124 is a multiple of 6 or not.

124 is not exactly divisible by 6.

Hence, 124 is not a multiple of 6.

$$\begin{array}{r}
 20 \\
 \overline{6) 124} \\
 \underline{-12} \downarrow \\
 04 \\
 \underline{-0} \\
 0
 \end{array}$$

- c. 320 is a multiple of 5 or not.
320 is exactly divisible by 5.
Hence, 320 is a multiple of 5.

$$\begin{array}{r} 64 \\ 5 \overline{) 320} \\ \underline{-30} \downarrow \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

- d. 368 is a multiple of 4 or not.
368 is exactly divisible by 4.
Hence, 320 is a multiple of 4.

$$\begin{array}{r} 92 \\ 4 \overline{) 368} \\ \underline{-36} \downarrow \\ 08 \\ \underline{-8} \\ 0 \end{array}$$

Assessment 6.3

1. Which of the following numbers are divisible by 2?

- a. 8728 $\boxed{4}$ Since 4 (even) is at ones place
So, 87284 is divisible by 2.
- b. 5732 $\boxed{9}$ Since 9 (odd) is at ones place
So, 57329 is not divisible by 2.
- c. 3567 $\boxed{8}$ Since 8 (even) is at ones place
So, 35678 is divisible by 2.
- d. 87069 $\boxed{0}$ Since 0 is at ones place
So, 870690 is divisible by 2.

2. Which of the following numbers are divisible by 3?

- a. 64356 Sum of all digits = $6 + 4 + 3 + 5 + 6 = 24$
Since, 24 is divisible by 3.
So, 64356 is divisible by 3.
- b. 502813 Sum of all digits = $5 + 0 + 2 + 8 + 1 + 3 = 19$
Since, 19 is not divisible by 3.
So, 502813 is not divisible by 3.
- c. 672841 Sum of all digits = $6 + 7 + 2 + 8 + 4 + 1 = 28$
Since, 28 is not divisible by 3.
So, 672841 is not divisible by 3.
- d. 906324 Sum of all digits = $9 + 0 + 6 + 3 + 2 + 4 = 24$
Since, 24 is divisible by 3.
So, 906324 is divisible by 3.

3. Which of the following numbers are divisible by 4?

- a. 472 $\boxed{63}$ 63 is not divisible by 4,

- b. $896\boxed{32}$ So, 47263 is not divisible by 4.
 32 is divisible by 4,
 So, 89632 is divisible by 4.
- c. $715\boxed{48}$ 48 is divisible by 4,
 So, 71548 is divisible by 4.
- d. $416\boxed{33}$ 33 is not divisible by 4,
 So, 41633 is not divisible by 4.

4. Which of the following numbers are divisible by 5?

- a. $4385\boxed{0}$ Since ones place digit is 0.
 So, 43850 is divisible by 5.
- b. $5394\boxed{4}$ Since ones place digit is not 0 or 5.
 So, 53944 is not divisible by 5.
- c. $7154\boxed{5}$ Since ones place digit is 5.
 So, 71545 is divisible by 5.
- d. $91638\boxed{0}$ Since ones place digit is 0.
 So, 916380 is divisible by 5.

5. Which of the following numbers are divisible by 6?

- a. $2645\boxed{1}$ Since ones place digit not even,
 So, 26451 is not divisible by 6.
- b. $6783\boxed{6}$ Since ones place digit is even
 Now, sum of digits of 67836 = $6 + 7 + 8 + 3 + 6 = 30$
 Since, 30 is divisible by 3.
 Thus, 67836 is divisible by 6.
- c. $3592\boxed{8}$ Since ones place digit is even
 Now, sum of digit 3 + 5 + 9 + 2 + 8 = 27
 Since, 27 is divisible by 3.
 Thus, 35928 is divisible by 6.
- d. $5496\boxed{3}$ 3 is odd, so, it is not divisible by 6.

6. Which of the following numbers are divisible by 8?

- a. $2\boxed{920}$ 920 is divisible by 8. So, 2920 is divisible by 8
- b. $16\boxed{782}$ 782 is not divisible by 8.
 So, 16782 is not divisible by 8.
- c. $17\boxed{520}$ 520 is divisible by 8. So, 17520 is divisible by 8

- d. $67\overline{)285}$ 285 is not divisible by 8.
So, 67285 is not divisible by 8.

7. Which of the following numbers are divisible by 9?

- a. 3285 Sum of digit = $3 + 2 + 8 + 5 = 18$
Since, 18 is divisible by 9.
So, 3285 is divisible by 9.
- b. 37652 Sum of digit = $3 + 7 + 6 + 5 + 2 = 23$
Since, 23 is not divisible by 9.
So, 37652 is not divisible by 9.
- c. 22995 Sum of digit = $2 + 2 + 9 + 9 + 5 = 27$
Since, 27 is divisible by 9.
So, 22995 is divisible by 9.
- d. 68985 Sum of digit = $6 + 8 + 9 + 8 + 5 = 36$
Since, 36 is divisible by 9.
So, 68985 is divisible by 9.

8. Which of the following numbers are divisible by 10?

- a. 7156 $\overline{)0}$ Last digit is 0
- c. 4163 $\overline{)0}$ Last digit is 0

Assessment Time 6.4

1. Fill in the blanks:

- a. The first prime number is **2**.
- b. **1** is neither prime nor composite.
- c. Prime number has **two** factors.
- d. 4 and 5 are **co-prime** prime numbers.

2. Check, whether the following numbers are prime or not:

- a. 12 Factor of 12 are 1, 2, 3, 4, 6 and 12
12 has more than 2 factors. So, it is not a prime number.
- b. 17 Factor of 17 are 1 and 17
17 has only 2 factors. So, it is a prime number.
- c. 19 Factor of 19 are 1 and 19.
19 has only 2 factors. So, it is a prime number.

- d. 36 Factor of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36
Since, 36 has more than 2 factors.
So it is not a prime number.
- e. 52 Factor of 52 are 1, 2, 4, 13, 26 and 52
Since, 52 has more than 2 factors.
So it is not a prime number.
- f. 61 Factor of 61 are 1 and 61
61 has only two factors. So it is a prime number.
- g. 69 Factor of 69 are 1, 3, 23 and 69
69 has more than two factors.
So, it is not a prime number.
- h. 73 Factor of 73 are 1 and 73
73 has only two factors. So it is a prime number.

3. Write all the prime numbers between:

- a. 10 to 25 11, 13, 17, 19, 23, 29
b. 30 to 40 31, 37
c. 40 to 60 41, 43, 47, 53, 59
d. 60 to 80 61, 67, 71, 73, 79

4. Write all the prime number between:

- a. 20 to 30 23, 29
b. 40 to 50 41, 43, 47
c. 60 to 75 61, 67, 71, 73
d. 80 to 96 83, 89, 93

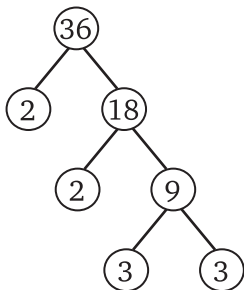
5. Which of the following are co-prime?

- a. 10 and 16
10 and 16 have 2 as common factors, So they are not prime
- b. 17 and 25
17 and 25 have 1 as common factor, So they are prime.
- c. 19 and 38
19 and 38 have 19 as common factors, So they are not prime
- d. 31 and 41
31 and 41 have 1 as common factor, So they are prime.

Assessment Time 6.5

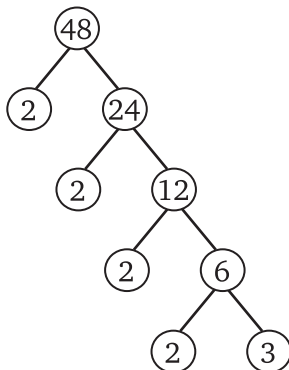
1. Find the prime factorisation of the following numbers by factor tree method:

a. 36



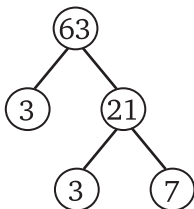
$$36 = 2 \times 2 \times 3 \times 3$$

b. 48



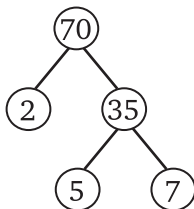
$$48 = 2 \times 2 \times 2 \times 2 \times 3$$

c. 63



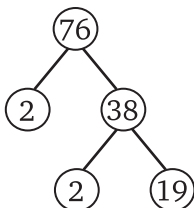
$$63 = 3 \times 3 \times 7$$

d. 70



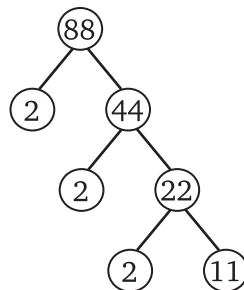
$$70 = 2 \times 5 \times 7$$

e. 76



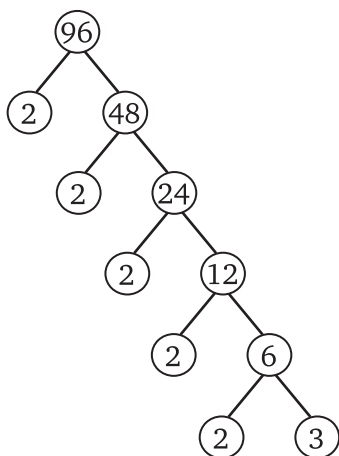
$$76 = 2 \times 2 \times 19$$

f. 88



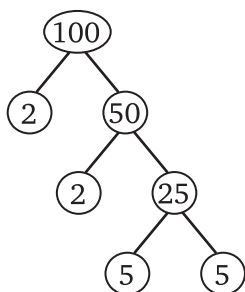
$$88 = 2 \times 2 \times 2 \times 11$$

g. 96



$$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$$

h. 100



$$100 = 2 \times 2 \times 5 \times 5$$

2. Find the prime factorisation of the following numbers by division method:

a. 24

2	25
2	12
2	6
3	3
	1

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

b. 56

2	56
2	28
2	14
7	7
	1

$$56 = 2 \times 2 \times 2 \times 7$$

c. 48

2	48
2	24
2	12
2	6
2	3
	1

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

d. 58

2	58
29	29
	1

$$58 = 2 \times 29$$

e. 68

$$\begin{array}{r|l}
 2 & 68 \\
 \hline
 2 & 34 \\
 \hline
 17 & 17 \\
 \hline
 & 1
 \end{array}$$

$$68 = 2 \times 2 \times 17$$

g. 95

$$\begin{array}{r|l}
 5 & 95 \\
 \hline
 19 & 19 \\
 \hline
 & 1
 \end{array}$$

$$95 = 5 \times 19$$

f. 81

$$\begin{array}{r|l}
 3 & 81 \\
 \hline
 3 & 27 \\
 \hline
 3 & 9 \\
 \hline
 3 & 3 \\
 \hline
 & 1
 \end{array}$$

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

h. 98

$$\begin{array}{r|l}
 2 & 98 \\
 \hline
 7 & 49 \\
 \hline
 7 & 7 \\
 \hline
 & 1
 \end{array}$$

$$98 = 2 \times 7 \times 7$$

CHAPTER 7: FRACTIONS

Assessment Time 7.1

1. Write 'T' for true and 'F' for false for the following statements:

- The numerators of the like fractions are same. (F)
- The numerators of a proper fraction is smaller than its denominator. (T)
- The value of an improper fraction is equal to or greater than 1. (T)
- The denominator of the unit fractions is 1. (F)

2. Write two like fractions for each of the following fractions:

- $\frac{3}{7} = \frac{1}{7}, \frac{5}{7}$
- $\frac{7}{8} = \frac{6}{8}, \frac{5}{8}$
- $\frac{11}{17} = \frac{16}{17}, \frac{15}{17}$
- $\frac{8}{23} = \frac{7}{23}, \frac{9}{23}$

3. Convert the following improper fractions into mixed fractions:

- $\frac{19}{4} = 4\frac{3}{4}$
- $\frac{27}{7} = 3\frac{6}{7}$
- $\frac{33}{5} = 6\frac{3}{5}$
- $\frac{43}{6} = 7\frac{1}{6}$
- $\frac{57}{8} = 7\frac{1}{8}$
- $\frac{63}{5} = 12\frac{3}{5}$

4. Convert the following mixed fractions into improper fractions:

a. $2\frac{2}{3} = \frac{3 \times 2 + 2}{3} = \frac{6 + 2}{3} = \frac{8}{3}$

b. $3\frac{5}{7} = \frac{7 \times 3 + 5}{7} = \frac{21 + 5}{7} = \frac{26}{7}$

c. $3\frac{4}{5} = \frac{5 \times 3 + 4}{5} = \frac{15 + 4}{5} = \frac{19}{5}$

d. $4\frac{3}{7} = \frac{7 \times 4 + 3}{7} = \frac{28 + 3}{7} = \frac{31}{7}$

e. $5\frac{2}{9} = \frac{9 \times 5 + 2}{9} = \frac{45 + 2}{9} = \frac{47}{9}$

f. $6\frac{3}{20} = \frac{20 \times 6 + 3}{20} = \frac{120 + 3}{20} = \frac{123}{20}$

5. Write four equivalent fractions each of the following fractions:

a. $\frac{3}{4}$ We multiply numerator and denominator by 2, 3, 4 and 5 to obtain four equivalent fraction.

$$\frac{3}{4} \times \frac{2}{2} = \frac{6}{8}; \frac{3}{4} \times \frac{3}{3} = \frac{9}{12}; \frac{3}{4} \times \frac{4}{4} = \frac{12}{16}; \frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$$

b. $\frac{4}{7}$

$$\frac{4}{7} \times \frac{2}{2} = \frac{8}{14}; \frac{4}{7} \times \frac{3}{3} = \frac{12}{21}; \frac{4}{7} \times \frac{4}{4} = \frac{16}{28}; \frac{4}{7} \times \frac{5}{5} = \frac{20}{35}$$

c. $\frac{6}{11}$

$$\frac{6}{11} \times \frac{2}{2} = \frac{12}{22}; \frac{6}{11} \times \frac{3}{3} = \frac{18}{33}; \frac{6}{11} \times \frac{4}{4} = \frac{24}{44}; \frac{6}{11} \times \frac{5}{5} = \frac{30}{55}$$

d. $\frac{5}{13}$

$$\frac{5}{13} \times \frac{2}{2} = \frac{10}{26}; \frac{5}{13} \times \frac{3}{3} = \frac{15}{39}; \frac{5}{13} \times \frac{4}{4} = \frac{20}{52}; \frac{5}{13} \times \frac{5}{5} = \frac{25}{65}$$

e. $\frac{7}{12}$

$$\frac{7}{12} \times \frac{2}{2} = \frac{14}{24}; \frac{7}{12} \times \frac{3}{3} = \frac{21}{36}; \frac{7}{12} \times \frac{4}{4} = \frac{28}{48}; \frac{7}{12} \times \frac{5}{5} = \frac{35}{60}$$

f. $\frac{8}{13}$

$$\frac{8}{13} \times \frac{2}{2} = \frac{16}{26}; \frac{8}{13} \times \frac{3}{3} = \frac{24}{39}; \frac{8}{13} \times \frac{4}{4} = \frac{32}{52}; \frac{8}{13} \times \frac{5}{5} = \frac{40}{65}$$

6. Write an equivalent fractions of $\frac{5}{7}$ with:

- a. numerator = 25

Let $\frac{5}{7} = \frac{25}{\square}$, Since we have to find an equivalent fraction of $\frac{5}{7}$ with numerator 25. So, we put 25 as numerator, now we have to find out denominator. To get 25 in numerator we have to multiply the fraction by 5 ($25 \div 5 = 5$)

$$\text{So, } \frac{5}{7} \times \frac{5}{5} = \frac{25}{35}$$

- b. numerator = 45

$$\frac{5}{7} = \frac{45}{\square} \quad \text{Since, } 45 \div 5 = 9$$

So, we multiply numerator and denominator both by 9.

$$\text{So, required fraction} = \frac{5}{7} \times \frac{9}{9} = \frac{45}{63}$$

- c. denominator = 21

$$\frac{5}{7} = \frac{\square}{21} \quad \text{Since, } 21 \div 7 = 3$$

So, we multiply numerator and denominator both by 3.

$$\text{So, required fraction} = \frac{5}{7} \times \frac{3}{3} = \frac{15}{21}$$

- d. denominator = 56

$$\frac{5}{7} = \frac{\square}{56} \quad \text{Since, } 56 \div 7 = 8$$

So, we multiply numerator and denominator both by 8.

$$\text{So, required fraction} = \frac{5}{7} \times \frac{8}{8} = \frac{40}{56}$$

7. Write an equivalent fraction of $\frac{96}{192}$ with:

- a. numerator = 32

$$\frac{96}{192} = \frac{32}{\square} \quad \text{Since, } 96 \div 32 = 3$$

So, we divide numerator and denominator both by 3.

$$\text{So, required fraction} = \frac{96}{192} \div \frac{3}{3} = \frac{32}{64}$$

- b. numerator = 8

$$\frac{96}{192} = \frac{8}{\square} \text{ Since, } 96 \div 8 = 12$$

So, we divide numerator and denominator both by 12.

$$\text{So, required fraction} = \frac{96}{192} \div \frac{12}{12} = \frac{8}{16}$$

- c. denominator = 6

$$\frac{96}{192} = \frac{\square}{6} \text{ Since, } 192 \div 6 = 32$$

So, we divide numerator and denominator both by 32.

$$\text{So, required fraction} = \frac{96}{192} \div \frac{32}{32} = \frac{3}{6}$$

- d. denominator = 32

$$\frac{96}{192} = \frac{\square}{32} \text{ Since, } 192 \div 32 = 6$$

So, we divide numerator and denominator both by 6.

$$\text{So, required fraction} = \frac{96}{192} \div \frac{6}{6} = \frac{16}{32}$$

8. Check whether the given pairs of fractions are equivalent or not:

- a. $\frac{4}{9}$ and $\frac{12}{27}$

On cross multiplication, we get

$$27 \times 4 = 108; \quad 9 \times 12 = 108$$

$$\text{Since, } 27 \times 4 = 9 \times 12$$

Hence, $\frac{4}{9}$ and $\frac{12}{27}$ are equivalent fraction.

- b. $\frac{7}{12}$ and $\frac{21}{34}$

On cross multiplication, we get

$$21 \times 12 = 252; \quad 7 \times 34 = 238$$

$$\text{Since, } 21 \times 12 \neq 7 \times 34$$

Hence, $\frac{7}{12}$ and $\frac{21}{34}$ are not equivalent fraction.

- c. $\frac{8}{15}$ and $\frac{7}{18}$

On cross multiplication, we get

$$8 \times 18 = 144;$$

$$15 \times 7 = 135$$

Since, $8 \times 18 \neq 15 \times 7$

Hence, $\frac{8}{15}$ and $\frac{7}{18}$ are not equivalent fraction.

d. $\frac{5}{9}$ and $\frac{35}{63}$

On cross multiplication, we get

$$5 \times 63 = 315;$$

$$9 \times 35 = 315$$

Since, $5 \times 63 = 9 \times 35$

Hence, $\frac{5}{9}$ and $\frac{35}{63}$ are equivalent fraction.

Critical Thinking Skills

1. $\frac{7}{8} = \frac{x}{56}$

$$\Rightarrow x \times 8 = 7 \times 56$$

$$\Rightarrow x = \frac{7 \times 56}{8} = 49$$

2. $\frac{6}{13} = \frac{x}{65} = \frac{30}{y}$

$$\Rightarrow x \times 13 = 6 \times 65 \quad \text{and} \quad 6 \times y = 30 \times 13$$

$$\Rightarrow x = \frac{6 \times 65}{13}$$

$$\Rightarrow y = \frac{30 \times 13}{6}$$

$$\Rightarrow x = 30$$

$$\Rightarrow y = 65$$

Assessment Time 7.2

1. Fill in the blanks by putting '>' and '<':

a. $\frac{5}{9} \boxed{>} \frac{4}{9}$

b. $\frac{8}{17} \boxed{>} \frac{6}{17}$

c. $\frac{3}{19} \boxed{<} \frac{5}{19}$

d. $\frac{7}{23} \boxed{>} \frac{6}{23}$

2. Compare the following pairs of fractions by cross multiplication method:

a. $\frac{7}{8}$ and $\frac{5}{6}$

On cross multiply, we get, $7 \times 6 = 42$; $8 \times 5 = 40$

Since, $42 > 40$ So, $\frac{7}{8} > \frac{5}{6}$

b. $\frac{8}{15}$ and $\frac{12}{17}$

On cross multiply, we get, $8 \times 17 = 126$; $15 \times 12 = 180$

Since, $126 < 180$ So, $\frac{8}{15} < \frac{12}{17}$

c. $\frac{3}{8}$ and $\frac{5}{12}$

On cross multiply, we get, $3 \times 12 = 36$; $8 \times 12 = 96$

Since, $36 < 96$ So, $\frac{3}{8} < \frac{5}{12}$

d. $\frac{5}{8}$ and $\frac{2}{3}$

On cross multiply, we get, $5 \times 3 = 15$; $8 \times 2 = 16$

Since, $15 < 16$ So, $\frac{5}{8} < \frac{2}{3}$

3. Compare the following pairs of fractions by converting them into like fractions:

a. $\frac{3}{14}$ and $\frac{5}{21}$

On converting given fraction into like fraction we get

LCM of 21 and 14 = $2 \times 3 \times 7 = 42$

$$\frac{3}{14} \times \frac{3}{3} = \frac{9}{42} \quad \frac{5}{21} = \frac{5}{21} \times \frac{2}{2} = \frac{10}{42}$$

Since, $\frac{9}{42} < \frac{10}{42}$ ($9 < 10$)

Hence, $\frac{3}{14} < \frac{5}{21}$

2	14, 21
3	7, 21
7	7, 7
	1, 1

b. $\frac{11}{15}$ and $\frac{7}{10}$

LCM of 15 and 10 = $5 \times 2 \times 3 = 30$

$$\frac{11}{15} = \frac{11}{15} \times \frac{2}{2} = \frac{22}{30} \quad \frac{7}{10} = \frac{7}{10} \times \frac{3}{3} = \frac{21}{30}$$

Since, $\frac{22}{30} > \frac{21}{30}$ ($22 > 21$)

$\frac{11}{15} > \frac{7}{10}$

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

c. $\frac{3}{8}$ and $\frac{5}{12}$

LCM of 8 and 12 = $2 \times 2 \times 2 \times 3 = 24$

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

$\frac{9}{24} < \frac{10}{24}$ (Since, $9 < 10$)

2	8, 12
2	4, 6
	2, 3

$$\text{So, } \frac{3}{8} < \frac{5}{12}$$

$$\text{d. } \frac{5}{18} \text{ and } \frac{7}{12}$$

$$\text{LCM of 18 and 12} = 2 \times 3 \times 3 \times 2 = 36$$

$$\frac{5}{18} = \frac{5}{18} \times \frac{2}{2} = \frac{10}{36} \quad \frac{7}{12} = \frac{7}{12} \times \frac{3}{3} = \frac{21}{36}$$

$$\frac{10}{36} < \frac{21}{36} \text{ (Since, } 10 < 21\text{)}$$

$$\text{Thus, } \frac{5}{18} < \frac{7}{12}$$

$$\begin{array}{r|l} 2 & 18, 12 \\ 3 & 9, 6 \\ \hline & 3, 2 \end{array}$$

4. Arrange the following fractions in ascending order:

$$\text{a. } \frac{4}{7}, \frac{3}{7}, \frac{1}{7} \text{ and } \frac{5}{7}$$

$$\text{Here, } \frac{1}{7} < \frac{3}{7} < \frac{4}{7} < \frac{5}{7} \quad (\because 1 < 3 < 4 < 5)$$

$$\text{Hence, Ascending order is } \frac{1}{7}, \frac{3}{7}, \frac{4}{7}, \frac{5}{7}$$

$$\text{b. } \frac{6}{7}, \frac{8}{21}, \frac{5}{14} \text{ and } \frac{7}{21}$$

$$\text{LCM of 7, 21, 14 and 21} = 3 \times 7 \times 2 = 42$$

$$\begin{array}{r|l} 3 & 7, 21, 14, 21 \\ 7 & 7, 7, 14, 7 \\ \hline & 1, 1, 2, 1 \end{array}$$

$$\frac{6}{7} = \frac{6 \times 6}{7 \times 6} = \frac{36}{42}$$

$$\frac{8}{21} = \frac{8 \times 2}{21 \times 2} = \frac{16}{42}$$

$$\frac{5}{14} = \frac{5 \times 3}{14 \times 3} = \frac{15}{42} \quad \frac{7}{21} = \frac{7 \times 2}{21 \times 2} = \frac{14}{42}$$

$$\text{Now, } \frac{14}{42} < \frac{15}{42} < \frac{16}{42} < \frac{36}{42}$$

$$\text{Hence, ascending order is } \frac{7}{21}, \frac{5}{14}, \frac{8}{21}, \frac{6}{7}$$

$$\text{c. } \frac{4}{15}, \frac{1}{10}, \frac{6}{25} \text{ and } \frac{7}{20}$$

$$\frac{4}{15} = \frac{4 \times 20}{15 \times 20} = \frac{80}{300}$$

$$\frac{1}{10} = \frac{1 \times 30}{10 \times 30} = \frac{30}{300}$$

$$\frac{6}{25} = \frac{6 \times 12}{25 \times 12} = \frac{72}{300}$$

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

$$\text{LCM} = 2 \times 5 \times 3 \times 5 \times 2 = 300$$

$$\frac{7}{20} = \frac{7 \times 15}{20 \times 15} = \frac{105}{300}$$

$$\text{Now, } \frac{30}{300} < \frac{72}{300} < \frac{80}{300} < \frac{105}{300}$$

$$\text{Hence, ascending order } \frac{1}{10}, \frac{6}{25}, \frac{4}{15}, \frac{7}{20}$$

5. Arrange the following fractions in descending order:

a. $\frac{7}{11}, \frac{8}{11}, \frac{4}{11}$ and $\frac{3}{11}$

Given fractions are like fractions, so we will compare their numerators.

$$\text{Hence, descending order is } \frac{8}{11}, \frac{7}{11}, \frac{4}{11} \text{ and } \frac{3}{11}$$

b. $\frac{7}{9}, \frac{5}{18}, \frac{4}{27}$ and $\frac{2}{3}$

$$\frac{7}{9} = \frac{7 \times 6}{9 \times 6} = \frac{42}{54}$$

$$\frac{5}{18} = \frac{5 \times 3}{18 \times 3} = \frac{15}{54}$$

$$\frac{4}{27} = \frac{4 \times 2}{27 \times 2} = \frac{8}{54}$$

$$\frac{2}{3} = \frac{2 \times 18}{3 \times 18} = \frac{36}{54}$$

$$\text{Now, } \frac{42}{54} > \frac{36}{54} > \frac{15}{54} > \frac{8}{54}$$

$$\text{Hence, descending order is } \frac{7}{9}, \frac{2}{3}, \frac{5}{18}, \frac{4}{27}$$

c. $\frac{4}{15}, \frac{3}{10}, \frac{6}{10}$ and $\frac{7}{20}$

$$\frac{4}{15} = \frac{4 \times 4}{15 \times 4} = \frac{16}{60}$$

$$\frac{3}{10} = \frac{3 \times 6}{10 \times 6} = \frac{18}{60}$$

$$\frac{6}{10} = \frac{6 \times 6}{10 \times 6} = \frac{36}{60}$$

$$\frac{7}{20} = \frac{7 \times 3}{20 \times 3} = \frac{21}{60}$$

$$\text{Now, } \frac{36}{60} > \frac{21}{60} > \frac{18}{60} > \frac{16}{60}$$

$$\text{Hence, descending order is } \frac{6}{10}, \frac{7}{20}, \frac{3}{10}, \frac{4}{15}$$

$$\begin{array}{r|l} 3 & 9, 18, 27, 3 \\ \hline 3 & 3, 6, 9, 1 \\ \hline & 1, 2, 3, 1 \end{array}$$

$$\begin{aligned} \text{LCM} &= 3 \times 3 \times 2 \\ &\times 3 = 54 \end{aligned}$$

$$\begin{array}{r|l} 2 & 15, 10, 10, 20 \\ \hline 5 & 15, 5, 5, 10 \\ \hline & 3, 1, 1, 2 \end{array}$$

$$\begin{aligned} \text{LCM} &= 2 \times 5 \times 3 \\ &\times 2 = 60 \end{aligned}$$

6. Reduce the following fractions to their lowest form:

a. $\frac{24}{36}$

So, HCF of 24 and 36 = 12

$$\frac{24}{36} = \frac{24 \div 12}{36 \div 12} = \frac{2}{3}$$

Hence, the lowest form of $\frac{24}{36}$ is $\frac{2}{3}$

$$\begin{array}{r|l} 2 & 24, 36 \\ \hline \end{array}$$

$$\begin{array}{r|l} 2 & 12, 18 \\ \hline \end{array}$$

$$\begin{array}{r|l} 3 & 6, 9 \\ \hline \end{array}$$

$$\begin{array}{r|l} & 2, 3 \\ \hline \end{array}$$

Since, no more common factor is 24 and 36

b. $\frac{40}{72}$

So, HCF of 40 and 72 = 8

$$\frac{40}{72} = \frac{40 \div 8}{72 \div 8} = \frac{5}{9}$$

Hence, the lowest form of $\frac{40}{72}$ is $\frac{5}{9}$

$$\begin{array}{r|l} 8 & 40, 72 \\ \hline \end{array}$$

$$\begin{array}{r|l} & 5, 8 \\ \hline \end{array}$$

Since, no more common factor is 40 and 72

c. $\frac{25}{75}$

So, HCF of 25 and 75 = 25

$$\frac{25}{75} = \frac{25 \div 25}{75 \div 25} = \frac{1}{3}$$

Hence, the lowest form of $\frac{25}{75}$ is $\frac{1}{3}$

$$\begin{array}{r|l} 5 & 25, 75 \\ \hline \end{array}$$

$$\begin{array}{r|l} 5 & 5, 15 \\ \hline \end{array}$$

$$\begin{array}{r|l} & 1, 3 \\ \hline \end{array}$$

Since, no more common factor is 25 and 75

d. $\frac{45}{105}$

So, HCF of 45 and 105 = 15

$$\frac{45}{105} = \frac{45 \div 15}{105 \div 15} = \frac{3}{7}$$

Hence, the lowest form of $\frac{45}{105}$ is $\frac{3}{7}$

$$\begin{array}{r|l} 3 & 45, 105 \\ \hline \end{array}$$

$$\begin{array}{r|l} 5 & 15, 35 \\ \hline \end{array}$$

$$\begin{array}{r|l} & 3, 7 \\ \hline \end{array}$$

Since, no more common factor is 45 and 105

Mental Maths

1. $\frac{5}{7}$ of 35 is equal to **25**

2. $\frac{3}{9}$ of 72 is equal to **24**

3. The lowest form of $\frac{25}{40}$ is $\frac{5}{8}$.

4. The lowest form of $\frac{34}{119}$ is $\frac{2}{7}$.

5. The sum of $\frac{3}{17}$ and $\frac{7}{17}$ is $\frac{10}{17}$.

6. The difference of $\frac{3}{19}$ and $\frac{3}{19}$ is 0.

Multiple Choice Questions

Tick (✓) the correct option:

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

CHAPTER-8 BASIC GEOMETRY

Assessment Time 8.1

- Fill in the blanks:
 - A **point** has no dimension.
 - A line segment has **2** end points.
 - A ray has **no fixed** length.
 - A line segment is measured with the help of a **ruler**.
- Define the following: Do yourself
- Do yourself 4. Do yourself
- Do yourself 6. Do yourself

Assessment Time 8.2

- Do yourself
- Identify the following types of lines as intersecting, perpendicular and parallel:

a. perpendicular	b. intersecting	c. parallel
d. perpendicular	e. perpendicular	f. intersecting
- 4 cm
- In the adjoining figure:

a. NK, NM	b. N
-------------	--------
- In the adjoining figure:

a. P, Q, N, T, S	b. U, V, X, W, M, Y, Z
--------------------	--------------------------
- Measure and classify the following angles as acute, right and obtuse:

a. Acute	b. Right	c. Obtuse
d. Acute	e. Acute	

Critical Thinking Skill

From the adjoining figure, name

- two pairs of parallel lines $QB \parallel CD$, $PQ \parallel MN$
- two pairs of intersecting lines. RQ , QB ; CD , LR
- two pairs of perpendicular lines. $PQ \perp QB$, $AQ \perp CD$

Assessment Time 8.3

1. Fill in the blanks:

- A polygon is made up of only **straight**.
- Open** figures has different points.
- A **triangle** is a 3-sided polygon.
- A square is a **4-sided** polygon.

2. Classify the open and closed figures:

- open
- closed
- closed
- open

3. Which of the following are polygon? Tick (✓) them:

- ✓
- ✓
- ✓
- ✗

4. Write the name of the following polygons. Also write the number of sides and angles:

Name	Triangle	Rectangle	Square
Number of side	3	4	4
No. of angles	3	4	4

Assessment Time 8.4

1. Find the perimeter of the following figures:

- Perimeter = $3 \text{ cm} + 7 \text{ cm} + 4 \text{ cm} + 5 \text{ cm}$
= 19 cm
- Perimeter = $3 \text{ cm} + 2 \text{ cm} + 3 \text{ cm} + 4 \text{ cm} + 5 \text{ cm} + 6 \text{ cm}$
= 23 cm
- Perimeter = $2 \text{ cm} + 4 \text{ cm} + 3 \text{ cm} + 4 \text{ cm} + 5 \text{ cm} + 8 \text{ cm}$
= 26 cm
- Perimeter = $3 \text{ cm} + 4 \text{ cm} + 3 \text{ cm} + 4 \text{ cm} + 5 \text{ cm} + 4 \text{ cm}$
+ $3 \text{ cm} + 4 \text{ cm}$
= 30 cm

- e. Perimeter = $6\text{ cm} + 7\text{ cm} + 8\text{ cm} = 21\text{ cm}$
 f. Perimeter = $9\text{ cm} + 4\text{ cm} + 6\text{ cm} = 19\text{ cm}$
2. a. Perimeter of rectangle = $2 \times (\text{length} + \text{breadth})$
 $= 2 \times (7 + 5)$
 $= 2 \times 12 = 24\text{ cm}$
 b. Perimeter of rectangle = $2 \times (12 + 9)$
 $= 2 \times 21 = 42\text{ cm}$
 c. Perimeter of rectangle = $2 \times (18 + 15)$
 $= 2 \times 33 = 66\text{ cm}$
 d. Perimeter of rectangle = $2 \times (20 + 12)$
 $= 2 \times 32 = 64\text{ cm}$
3. a. Perimeter of square = $4 \times \text{side} = 4 \times 20 = 80\text{ cm}$
 b. Perimeter of square = $4 \times \text{side} = 4 \times 7 = 28\text{ cm}$
 c. Perimeter of square = $4 \times \text{side} = 4 \times 12 = 48\text{ cm}$
 d. Perimeter of square = $4 \times \text{side} = 4 \times 18 = 72\text{ cm}$
4. a. Perimeter = $AB + BC + CD + DE + EA$
 $24\text{ cm} = 4\text{ cm} + 5\text{ cm} + CD + 3\text{ cm} + 2\text{ cm}$
 $\Rightarrow 24\text{ cm} = 14\text{ cm} + CD$
 $\Rightarrow CD = 24\text{ cm} - 14\text{ cm} = 10\text{ cm}$
 b. Perimeter = $AB + BC + CA$
 $19\text{ cm} = 7\text{ cm} + BC + 7\text{ cm}$
 $\Rightarrow 19\text{ cm} = 14\text{ cm} + BC$
 $\Rightarrow BC = 19\text{ cm} - 14\text{ cm} = 5\text{ cm}$
 c. Perimeter = $2 \times (\text{length} + \text{breadth})$
 $44\text{ cm} = 2 \times (12 + \text{breadth})$
 $\Rightarrow \frac{44}{2}\text{ cm} = 12 + \text{breadth}$
 $\Rightarrow 22\text{ cm} = 12 + \text{breadth}$
 $\Rightarrow \text{breadth} = 22 - 12 = 10\text{ cm}$
 So, $AB = BC = 10\text{ cm}$
4. Perimeter = $PQ + QR + RS + PS$
 $32\text{ cm} = 5\text{ cm} + 5\text{ cm} + RS + 8\text{ cm}$
 $32\text{ cm} = 18\text{ cm} + RS$
 $RS = 32\text{ cm} - 18\text{ cm} = 14\text{ cm}$

5. Perimeter of square = 28 cm

$$4 \times \text{side} = 28$$

$$\text{side} = \frac{28}{4} = 7 \text{ cm}$$

SDG

Perimeter of the rectangular = 2 (length + breadth)

$$= 2 (30 + 18)$$

$$= 2 \times 48 = 96 \text{ cm}$$

Mental Maths

1. The perimeter of a triangles of side 4 cm, 7 cm and 9 cm is **20 cm**.
2. The perimeter of a black board whose dimensions are 32 cm and 24 cm is **112 cm**.
3. The perimeter of a square park whose each side is 80 m is **320 cm**.
4. A **point** has no dimension.
5. A line has **not** length.

Multiply Choice Questions:

Tick (✓) the correct option:

- | | |
|------------------|------------------------|
| 1. Two end point | 2. no line of symmetry |
| 3. 6 faces | 4. 3 faces |

CHAPTER-9: MEASUREMENT

Assessment Time 9.1

1. Convert the following:

a. Since 1 km = 1000 m

$$8 \text{ km } 340 \text{ m} = (8 \times 1000 + 340) \text{ m} = 8340 \text{ m}$$

b. Since 1 m = 100 cm

$$\begin{aligned} 29 \text{ m } 85 \text{ cm} &= (29 \times 100 + 85) \text{ cm} \\ &= 2900 + 85 = 2985 \text{ cm} \end{aligned}$$

c. Since 1 hm = 100 m

$$\begin{aligned} 16 \text{ hm } 35 \text{ m} &= (16 \times 100 + 35) \text{ m} \\ &= 1600 + 35 = 1635 \text{ m} \end{aligned}$$

- d. Since $1 \text{ cm} = 10 \text{ mm}$
 $17 \text{ cm } 5 \text{ mm} = (17 \times 10 + 5) \text{ mm}$
 $= 170 + 5 = 175 \text{ mm}$

2. Convert the following:

- a. Since $1 \text{ kg} = 1000 \text{ g}$
 $7 \text{ kg } 890 \text{ g} = (7 \times 1000 + 890) \text{ g}$
 $= 7890 \text{ g}$
- b. Since $1 \text{ hg} = 100 \text{ g}$
 $23 \text{ hg } 38 \text{ g} = (23 \times 100 + 38) \text{ g}$
 $= 2300 + 38 \text{ g} = 2338 \text{ g}$
- c. Since $1 \text{ g} = 1000 \text{ mg}$
 $91 \text{ g } 83 \text{ mg} = (91 \times 1000 + 83) \text{ mg}$
 $= 91000 + 83 \text{ mg} = 91083 \text{ mg}$
- d. Since $1 \text{ dg} = 100 \text{ mg}$
 $37 \text{ dg } 54 \text{ mg} = (37 \times 100 + 54) \text{ mg}$
 $= 3700 + 54 \text{ mg} = 3754 \text{ mg}$

3. Convert the following:

- a. Since $1 \text{ kL} = 1000 \text{ L}$
 $4 \text{ kL } 853 \text{ L} = (4 \times 1000 + 853) \text{ L}$
 $= 4000 + 853 \text{ L} = 4853 \text{ L}$
- b. Since $1 \text{ hL} = 100 \text{ L}$
 $91 \text{ hL } 38 \text{ L} = (91 \times 100 + 38) \text{ L}$
 $= 9100 + 38 \text{ L} = 9138 \text{ L}$
- c. Since $1 \text{ L} = 1000 \text{ mL}$
 $54 \text{ L } 37 \text{ mL} = (54 \times 1000 + 37) \text{ mL}$
 $= 54000 + 37 \text{ mL} = 54037 \text{ mL}$
- d. Since $1 \text{ dL} = 100 \text{ mL}$
 $15 \text{ dL } 54 \text{ mL} = (15 \times 100 + 54) \text{ mL}$
 $= 1500 + 54 \text{ mL} = 1554 \text{ mL}$

4. Convert the following:

- a. Since $1000 \text{ m} = 1 \text{ km}$
 $5483 \text{ m} = (5000 + 483) \text{ m}$
 $= (5 \times 1000 + 483) \text{ m} = 5 \text{ km } 483 \text{ m}$

- b. Since $100 \text{ m} = 1 \text{ hm}$
 $9163 \text{ m} = (9100 + 63) \text{ m}$
 $= (91 \times 100 + 63) \text{ m} = 91 \text{ hm } 63 \text{ m}$
- c. Since $100 \text{ cm} = 1 \text{ m}$
 $5428 \text{ cm} = (5400 + 28) \text{ cm}$
 $= (54 \times 100 + 28) \text{ cm} = 54 \text{ m } 28 \text{ cm}$
- d. Since $1000 \text{ mm} = 1 \text{ m}$
 $8162 \text{ mm} = (8000 + 162) \text{ mm}$
 $= (8 \times 1000 + 162) \text{ mm} = 8 \text{ m } 162 \text{ mm}$

5. Convert the following:

- a. Since $1000 \text{ g} = 1 \text{ kg}$
 $1528 \text{ g} = (1000 + 528) \text{ g}$
 $= (1 \times 1000 + 528) \text{ g} = 1 \text{ kg } 528 \text{ g}$
- b. Since $100 \text{ g} = 1 \text{ hg}$
 $3728 \text{ g} = (3700 + 28) \text{ g}$
 $= (37 \times 100 + 28) \text{ g} = 37 \text{ hg } 28 \text{ g}$
- c. Since $1000 \text{ mg} = 1 \text{ g}$
 $8163 \text{ mg} = (8000 + 163) \text{ mg}$
 $= (8 \times 1000 + 163) \text{ mg} = 8 \text{ g } 163 \text{ mg}$
- d. Since $100 \text{ mg} = 1 \text{ dg}$
 $7328 \text{ mg} = (7300 + 28) \text{ mg}$
 $= (73 \times 100 + 28) \text{ mg} = 73 \text{ dg } 28 \text{ mg}$

6. Convert the following:

- a. Since $1000 \text{ L} = 1 \text{ kL}$
 $8163 \text{ L} = (8000 + 163) \text{ L}$
 $= (8 \times 1000 + 163) \text{ L} = 8 \text{ kL } 163 \text{ L}$
- b. Since $1000 \text{ mL} = 1 \text{ L}$
 $3762 \text{ mL} = (3000 + 762) \text{ mL}$
 $= (3 \times 1000 + 762) \text{ mL} = 3 \text{ L } 762 \text{ mL}$
- c. Since $100 \text{ L} = 1 \text{ hL}$
 $5428 \text{ L} = (5400 + 28) \text{ L}$
 $= (54 \times 100 + 28) \text{ L} = 54 \text{ hL } 28 \text{ L}$
- d. Since $100 \text{ mL} = 1 \text{ dL}$
 $9163 \text{ mL} = (9100 + 63) \text{ mL}$
 $= (91 \times 100 + 63) \text{ mL} = 91 \text{ dL } 63 \text{ mL}$

Assessment Time 9.2

1. Add the following:

a.

	km		m	
	1		1	
	4	4	8	25
+	3	7	1	57
	8	1	9	82

b.

	km		m	
	2		1	2
	5	2	8	067
	5	1	4	428
+	4	2	8	059
	1	4	7	1554

c.

	m		cm	
	1	1	1	
	5	2	4	87
+	1	9	2	24
	7	1	7	11

d.

	km		m	
	1	2	1	1
	1	3	9	28
	2	4	7	63
+	3	5	8	42
	7	4	5	33

2. Add the following:

a.

	kg		g	
	1		1	
	7	8	3	74
+	6	7	0	85
	1	4	5	459

b.

	kg		g	
	1	1	1	2
	3	8	6	057
	2	1	3	136
+	3	2	8	429
	9	2	7	622

c.

	g		mg	
	1		1	1
	2	1	9	052
+	5	1	8	879
	7	3	7	931

d.

	g		mg	
	1	2	1	1
	4	2	8	672
	1	5	8	312
+	2	1	9	482
	8	0	6	466

3. Add the following:

a.

	kL		L	
	1		1	
	6	7	2	03
+	1	2	8	067
	1	9	5	270

b.

	kL		L	
	1	1	1	2
	2	4	3	625
	2	4	8	037
+	3	4	6	259
	8	3	7	921

c.

	L			mL		
	1			1		
	3	4	6	5	2	8
+	6	3	2	4	7	
	4	0	9	7	7	5

d.

	kL			L		
	1			1	2	
	4	2	6	0	4	8
	5	0	4	1	5	9
+	1	5	9	2	6	7
	1	0	8	9	4	7

Assessment Time 9.3

1. Subtract the following:

a.

	km			m		
	8	15		3	15	
	9	5	2	4	5	
-	6	7	1	3	8	
	2	8	1	0	7	

b.

	km			m		
	5	9	9	9	9	10
	6	0	0	0	0	0
-	4	2	4	6	2	4
	1	7	5	3	7	6

c.

	m			cm		
	4	11	10	15		
	5	5	2	1	5	
-	4	2	5	3	6	
	1	2	6	7	9	

d.

	m			cm		
	2	9	9	13		
	3	0	0	3	8	
-	1	3	9	6	7	
	1	6	0	7	1	

2. Subtract the following:

a.

	kg			g		
	4	9	10	1	12	10
	5	0	0	2	3	0
-	3	1	8	1	5	2
	1	8	2	0	7	8

b.

	kg			g		
	7	18	11			
	3	8	9	1	5	9
-	1	5	9	3	2	5
	2	2	9	8	3	4

c.

	g			mg		
	9	5	7	4	2	9
-	9	1	6	3	1	9
	4	1	1	1	0	0

d.

	g			mg		
		4	12	10	15	
	3	8	5	3	1	5
-	2	2	1	4	9	7
	1	6	3	8	1	8

3. Subtract the following:

a.

	kL		L	
		7	13	
	6	3	8	389
-	4	1	3	819
	2	2	4	570

b.

	kL		L	
	3	9	9	9 10
	4	0	0	000
-	2	8	9	516
	1	1	0	484

c.

	L		mL	
	4	10	12	
	5	1	2	967
-	4	3	6	856
	7	6	1	11

d.

	L		mL	
	7	11		
	8	1	6	543
-	5	9	6	512
	2	2	0	131

Assessment Time 9.4

1. Distance between Delhi and Jaipur = 235 km

Rajat travelled = 114 km 630 m

Distance Rajat need to cover

$$= 235 \text{ km} - 114 \text{ km } 630 \text{ m} = 120 \text{ km } 370 \text{ m}$$

Hence, Rajat need to cover 120 km 370 m more.

	km		m	
		4	9	10
	2	3	5	000
-	1	1	4	630
	1	2	0	370

2. Weight of gas filled cylinder = 30 kg 480 g

Weight of gas = 14 kg 200 g

Weight of empty cylinder

$$= 30 \text{ kg } 480 \text{ g} - 14 \text{ kg } 200 \text{ g}$$

$$= 16 \text{ kg } 280 \text{ g}$$

Hence, the weight of empty cylinder is 16 kg 280 g.

	kg		g	
	2	10		
	3	0	4	80
-	1	4	2	00
	1	6	2	80

3. Total weight of cylinder = 22 kg

Weight of potatoes = 6 kg 250 g

Weight of onion = 4 kg 540 g

Weight of tomatoes = 6 kg 650 g

Weight of cabbage

$$= 22 \text{ kg} - (6 \text{ kg } 250 \text{ g} + 4 \text{ kg } 540 \text{ g} + 6 \text{ kg } 650 \text{ g})$$

$$= 22 \text{ kg} - 17 \text{ kg } 440 \text{ g}$$

$$= 4 \text{ kg } 560 \text{ g}$$

	kg		g	
	1	1	1	
	6	2	5	0
	4	5	4	0
+	6	6	5	0
	1	7	4	40

	kg		g	
	1	11	9	10
	2	2	0	00
-	1	7	4	40
	0	4	5	60

74 Key Math-04

4. Fruits sold on Friday = 74 kg 380 g

Fruits sold on Saturday = 32 kg 460 g

Fruits sold on Sunday = 89 kg 960 g

Total quantity of fruits = 74 kg 380 g

$$+ 32 \text{ kg } 460 \text{ g} + 89 \text{ kg } 960 \text{ g}$$

$$= 196 \text{ kg } 800 \text{ g}$$

kg		g	
	1 1 2		
	74	380	
	32	460	
+	89	960	
	196	800	

5. Distance between office and home = 12 km 340 m

Suhani covered distance on foot = 1 km 280 m

Distance covered by train

$$= 12 \text{ km } 340 \text{ m} - 1 \text{ km } 280 \text{ m}$$

$$= 11 \text{ km } 060 \text{ m}$$

Hence,, she covered 11 km 60 m by train.

km		m	
		2 14	
	12	340	
-	1	280	
	11	060	

6. Weight of Mr. Verma = 78 kg 680 g

Weight of her wife = 67 kg 590 g

Mr. Verma heavier than his wife

$$= 78 \text{ kg } 680 \text{ g} - 67 \text{ kg } 590 \text{ g}$$

$$= 11 \text{ kg } 090 \text{ g}$$

Hence, Mr. Verma is 11 kg 90 g heavier than his wife.

kg		g	
		5 18	
	78	680	
-	67	590	
	11	090	

7. Container contains oil = 20 L

Oil used for making samosas = 4 L 185 mL

Oil remained in container = 20 L - 4 L 185 mL

$$= 15 \text{ L } 815 \text{ mL}$$

Hence, 15 L 815 mL oil is remained in the container.

L		mL	
	1 9	9 9 10	
	20	000	
-	4	185	
	15	815	

SEL

Uma used water = 30 L

Water in bucket = 30 L 250 mL

She saves water = 30 L - 20 L 250 mL

$$= 9 \text{ L } 750 \text{ mL}$$

L		mL	
	2 9	9 10	
	30	000	
-	20	250	
	09	750	

Mental Maths

1. Put the sign '<', '>' or '='.

a. 4 kg 380 g < 4457 g

b. 7 km 580 m > 7395 m

c. 6 kL 395 L = 6395 L

d. 28 g 68 mg < 28680 mg

2. Subtract the following:

a.

	₹	p
	4 10 18 9 10	
	5 1 0 0 0	
−	2 3 9 4 8	
	2 7 9 5 2	

b.

	₹	p
	2 10 15 13 15	
	3 1 6 4 5	
−	1 1 6 5 8	
	1 9 9 8 7	

c.

	₹	p
	5 9 9 9 10	
	6 0 0 0 0	
−	3 9 6 4 3	
	2 0 3 5 7	

d.

	₹	p
		6 13
	9 3 7 3 8	
−	7 1 6 5 7	
	2 2 0 8 1	

Assessment Time 10.2

1. Multiply the following:

a. ₹ 28.69 × 5

	₹	p
	4 3 4	
	2 8 6 9	
×		5
	1 4 3 4 5	

b. ₹ 47.85 × 6

	₹	p
	4 5 3	
	4 7 8 5	
×		6
	2 8 7 1 0	

c. ₹ 392.37 × 7

	₹	p
	6 1 2 4	
	3 9 2 3 7	
×		7
	2 7 4 6 5 9	

d. ₹ 456.38 × 8

	₹	p
	4 5 3 6	
	4 5 6 3 8	
×		8
	3 6 5 1 0 4	

e. ₹ 659.91 × 9

	₹	p
	5 8 8	
	6 5 9 9 1	
×		9
	5 9 3 9 1 9	

f. ₹ 476.05 × 3

	₹	p
	2 1 1	
	4 7 6 0 5	
×		3
	1 4 2 8 1 5	

g. ₹ 463.43 × 6

	₹	p
	3 2 2 1	
	4 6 3 4 3	
×		6
	2 7 8 0 5 8	

h. ₹ 528.63 × 8

	₹	p
	2 6 5 2	
	5 2 8 6 3	
×		8
	4 2 2 9 0 4	

2. Divide the following:

a. ₹ 495.81 ÷ 3

Since, ₹ 1 = 100 paise

$$= (495.81 \times 100) \text{ paise} = 49581 \text{ paise}$$

$$\text{So, } 16527 \text{ paise} = ₹ (16527 \div 100)$$

$$= ₹ 165.27$$

$$\text{Hence, } ₹ 495.81 \div 3 = ₹ 165.27$$

$$\begin{array}{r}
 16527 \\
 3 \overline{) 49581} \\
 \underline{-3} \\
 19 \\
 \underline{-18} \\
 15 \\
 \underline{-15} \\
 08 \\
 \underline{-06} \\
 21 \\
 \underline{-21} \\
 0
 \end{array}$$

b. ₹ 28.69 ÷ 5

Since ₹ 1 = 100 paise

$$₹ 28.69 = (28.69 \times 100) \text{ paise}$$

$$= 2869 \text{ paise}$$

$$\text{So, } 573.8 \text{ paise} = ₹ (573.8 \div 100)$$

$$= ₹ 5.738$$

$$\text{So, } 28.69 \div 5 = ₹ 5.738$$

$$\begin{array}{r}
 573.8 \\
 5 \overline{) 2869} \\
 \underline{-25} \\
 36 \\
 \underline{-35} \\
 19 \\
 \underline{-15} \\
 40 \\
 \underline{-40} \\
 0
 \end{array}$$

c. ₹ 3493.25 ÷ 5

Since, ₹ 1 = 100 paise

$$₹ 3493.25 = (3493.25 \times 100) \text{ paise}$$

$$= 349325 \text{ paise}$$

$$\text{So, } 69865 \text{ paise} = ₹ (69865 \div 100)$$

$$= ₹ 698.65$$

$$\text{Hence, } ₹ 3493.25 \div 5 = ₹ 698.65$$

$$\begin{array}{r}
 69865 \\
 5 \overline{) 349325} \\
 \underline{-30} \\
 49 \\
 \underline{-45} \\
 43 \\
 \underline{-40} \\
 32 \\
 \underline{-30} \\
 25 \\
 \underline{-25} \\
 0
 \end{array}$$

d. ₹ 2580.83 ÷ 7

Since ₹ 1 = 100 paise

$$₹ 2580.83 = (2580.83 \times 100) \text{ paise}$$

$$= 258083 \text{ paise}$$

$$\text{So, } 36869 \text{ paise} = ₹ (36869 \div 100)$$

$$= ₹ 368.69$$

$$\text{Hence, } ₹ 2580.83 \div 7 = ₹ 368.69$$

$$\begin{array}{r}
 36869 \\
 7 \overline{) 258083} \\
 \underline{-21} \\
 48 \\
 \underline{-42} \\
 60 \\
 \underline{-56} \\
 48 \\
 \underline{-42} \\
 63 \\
 \underline{-63} \\
 0
 \end{array}$$

e. ₹ 789.44 ÷ 4

Since, ₹ 1 = 100 paise

₹ 789.44 = (789.44 × 100) paise

= 78944 paise

19736 paise = ₹ (19736 ÷ 100)

= ₹ 197.36

Hence, ₹ 789.44 ÷ 4 = ₹ 197.36

$$\begin{array}{r} 19736 \\ 4 \overline{) 78944} \\ \underline{-4} \\ 38 \\ \underline{-36} \\ 29 \\ \underline{-28} \\ 14 \\ \underline{-12} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

f. ₹ 5235.04 ÷ 8

Since, ₹ 1 = 100 paise

₹ 5235.04 = (5235.04 × 100) paise

= 523504 paise

65438 paise = ₹ (65438 ÷ 100)

= ₹ 654.38

Hence, ₹ 5235.04 ÷ 8 = ₹ 654.38

$$\begin{array}{r} 65438 \\ 8 \overline{) 523504} \\ \underline{-48} \\ 43 \\ \underline{-40} \\ 35 \\ \underline{-32} \\ 30 \\ \underline{-24} \\ 64 \\ \underline{-64} \\ 0 \end{array}$$

g. ₹ 48291.12 ÷ 9

Since, ₹ 1 = 100 paise

₹ 48291.12 = (48291.12 × 100) paise

= 4829112 paise

536568 paise = ₹ (536568 ÷ 100)

= ₹ 5365.68

Hence, ₹ 48291.12 ÷ 9 = ₹ 5365.68

$$\begin{array}{r} 536568 \\ 9 \overline{) 4829112} \\ \underline{-45} \\ 32 \\ \underline{-27} \\ 59 \\ \underline{-54} \\ 51 \\ \underline{-45} \\ 61 \\ \underline{-54} \\ 72 \\ \underline{-72} \\ 0 \end{array}$$

h. ₹ 16484.86 ÷ 7

Since, ₹ 1 = 100 paise

₹ 16484.86 = (16484.86 × 100) paise

= 1648486 paise

235498 paise = ₹ (235498 ÷ 100)

= ₹ 2354.98

Hence, ₹ 16484.86 ÷ 7 = ₹ 2354.98

$$\begin{array}{r}
 235498 \\
 7 \overline{) 1648486} \\
 \underline{-14} \downarrow \\
 24 \downarrow \\
 \underline{-21} \downarrow \\
 38 \downarrow \\
 \underline{-35} \downarrow \\
 34 \downarrow \\
 \underline{-28} \downarrow \\
 68 \downarrow \\
 \underline{-63} \downarrow \\
 56 \downarrow \\
 \underline{-56} \downarrow \\
 0
 \end{array}$$

Assessment Time 10.3

1. Cost of shirt = ₹ 799.95

Cost of T-shirt = ₹ 659.65

Cost of jeans = ₹ 915.50

Total money he spend in all

= ₹ (799.95 + 659.65 + 915.50)

= ₹ 2375.10

	₹			p
	1	2	2	1
	7	9	9	95
	6	5	9	65
+	9	1	5	50
	2	3	7	510

Hence, he spends ₹ 2375.10 in all.

2. Jyoti has money = ₹ 1375.50

Her mother gave money = ₹ 1100

Her elder sister gave = ₹ 275

Total money Jyoti have now

= ₹ (1375.50 + 1100 + 275)

= ₹ 2750.50

	₹			p
	1	1		
	1	3	7	50
	1	1	0	00
+	2	7	5	00
	2	7	5	050

Cost of jeans = ₹ 778.50

Cost of a T-shirt = ₹ 445.95

Money left with her = ₹ 2750.50 - (778.50 + 445.95)

= ₹ (2750.50 - 1224.45) = ₹ 1526.05

Hence, ₹ 1526.05 is left with her.

80 Key Math-04

3. Cost of a pencil box = ₹ 223.65

Cost of a tiffin box = ₹ 485

Cost of a water bottle = ₹ 266

Total cost = ₹ (225.65 + 485 + 266)

= ₹ 976.65

Hence, the total bill is ₹ 976.65.

	₹			p
	1	1		
	2	2	5	6 5
	4	8	5	0 0
+	2	2	6	0 0
	9	7	6	6 5

4. Cost of 10 copies = ₹ 260

Cost of 5 pens = ₹ 45.50

Cost of a book = ₹ 85.65

Total cost of all items = ₹ (260 + 45.50 + 85.65)

= ₹ 391.15

Money he get back = ₹ (500 - 391.15)

= ₹ 108.85

Hence, he will get back ₹ 108.85

	₹			p
	2	6	0	0 0
	4	5	5	0
+	8	5	6	5
	3	9	1	1 5

	₹			p
	4	9	9	9 10
	5	0	0	0 0
-	3	9	1	1 5
	1	0	8	8 5

5. Cost of one jeans = ₹ 899.55

Cost of 15 jeans = ₹ (899.55 × 15)

= ₹ 3493.25

899.55
× 15
4497 75
+ 8995 50
13493.25

6. Cost of 1 kg of sugar = ₹ 52.75

Cost of 28 kg of sugar = ₹ 52.75 × 28

= ₹ 1477.00

Hence, the cost of 28 kg of sugar is ₹ 1477.

52.75
× 28
422 00
1055 00
1477.00

7. Cost of 6 bats = ₹ 1051.50

Cost of 1 bat = ₹ 1051.50 ÷ 6

= ₹ 175.25

Since, ₹ 1 = 100 paise

So, ₹ 1051.50 = (1051.50 × 100) paise

= 105150 paise

Now, 1051.56 ÷ 6 = 17525 p

17525 p = ₹ (17525 ÷ 100)

= ₹ 175.25

Hence, the cost of 1 bat is ₹ 175.25

$$\begin{array}{r}
 17525 \\
 6 \overline{) 105150} \\
 \underline{-6} \\
 45 \\
 \underline{-42} \\
 31 \\
 \underline{-30} \\
 15 \\
 \underline{-12} \\
 30 \\
 \underline{-30} \\
 0
 \end{array}$$

8. Cost of 5 toy aeroplanes = ₹ 3879.25

Cost of 1 toy aeroplane = ₹ (3879.25 ÷ 5)

= ₹ 775.85

Since, ₹ 1 = 100 paise

So, ₹ 775.85 = (775.85 × 100) paise

= 77585

Now, 387925 ÷ 5 = 77585 p

77585 p = ₹ (77585 ÷ 100)

= ₹ 775.85

Hence, the cost of 1 toy aeroplane is ₹ 775.85

$$\begin{array}{r}
 77585 \\
 5 \overline{) 387925} \\
 \underline{-35} \\
 37 \\
 \underline{-35} \\
 29 \\
 \underline{-25} \\
 42 \\
 \underline{-40} \\
 25 \\
 \underline{-25} \\
 0
 \end{array}$$

9. Cost of one pencil = ₹ 28

Number of pencil bought from ₹ 536 = ₹ $\frac{536}{28}$ = ₹ 19

Hence, pencil bought = 19

Money left = ₹ 4

$$\begin{array}{r}
 19 \\
 28 \overline{) 536} \\
 \underline{-28} \\
 256 \\
 \underline{-252} \\
 4
 \end{array}$$

SEL

Total money = 25 × 100 + 10 × 50 + 5 × 10

= ₹ (250 + 500 + 50)

= ₹ 3050

Mental Math

1. The sum of ₹ 375 and ₹ 625 is ₹ **1000**.

2. The difference of ₹ 760 and ₹ 240 is ₹ **520**.

3. If the cost of 1 pen is ₹ 65, then the cost of 4 pens is ₹ 260.
4. If the cost of 12 pencils is ₹ 84, then the cost of 1 pencil is ₹ 7.
5. If the cost of 4 dozen of bananas is ₹ 168, then the cost of 1 dozen of bananas is ₹ 42.

Multiple Choice Questions

Tick (✓) the correct option:

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

CHAPTER 11: TIME

Assessment Time 11.1

1. Write the exact time shown in each clock:

(a)



10:12

(b)



3:53

(c)



5:00

(d)



7:18

2. Draw the hand of the clock to show the time written:

(a)



4:27

(b)



5:18

(c)



9:10

(d)



8:53

Assessment Time 11.2

1. Fill in the blanks with a.m. or p.m.:

- a. You go to school at 7:30 a.m.
- b. You come from school at 1:40 p.m.
- c. You take your lunch at 2:30 p.m.
- d. You play with your friend at 5:00 p.m.
- e. You go to sleep at 10:30 p.m.

2. What time will be

- a. 4 hours after 7 a.m.?

11 a.m.

- b. 6 hours after 11 a.m.? **5 p.m.**
 c. 5 hours 30 minutes before 3 p.m. **10:30 a.m.**
 d. 4 hours 15 minutes before 4 a.m. **11:45 p.m.**

3. Change the following into the 24-hour clock time:

- a. 8:15 a.m. = **8:15 hours**. b. 9:30 p.m. = **21:30 hours**
 c. 6:30 p.m. = **18:30 hours** d. 10:15 a.m. = **10:15 hours**

4. Change the following into the 12-hour clock time:

- a. 0635 hours = **6:35 a.m.** b. 0946 hours = **9:46 a.m.**
 c. 1838 hours = **6:38 p.m.** d. 1655 hours = **4:55 p.m.**

5. Mehul goes to office = 10:45 a.m.

He returns = 8:30 p.m.

$$\begin{aligned}\text{Difference} &= 10:45 \xrightarrow{1 \text{ hr } 15 \text{ min}} 12:50 \xrightarrow{8 \text{ hr } 30 \text{ min}} 8:30 \text{ a.m.} \\ &= 1 \text{ hr } 15 \text{ min} + 8 \text{ hrs } 30 \text{ min} \\ &= 9 \text{ hrs } 45 \text{ min}\end{aligned}$$

6. Manan went to market = 11:00 a.m.

He returned = 5:15 p.m.

$$\begin{aligned}\text{Difference} &= 11:00 \xrightarrow{1 \text{ hr}} 12:00 \xrightarrow{5 \text{ hr } 15 \text{ min}} 5:15 \\ &= 1 \text{ hr} + 5 \text{ hr } 15 \text{ min} \\ &= 6 \text{ hrs } 15 \text{ min}\end{aligned}$$

7. A film show starts = 11:45 a.m.

It ends = 2:10 p.m.

$$\begin{aligned}\text{Duration} &= 11:45 \text{ a.m.} \xrightarrow{15 \text{ min}} 12:00 \xrightarrow{2 \text{ hr } 10 \text{ min}} 2:10 \text{ p.m.} \\ &= 15 \text{ min} + 2 \text{ hrs } 10 \text{ min} \\ &= 2 \text{ hrs } 25 \text{ min}\end{aligned}$$

8. Mohan went to trade fair = 10:00 a.m.

$$\begin{aligned}\text{He came at} &= 10:00 \text{ a.m.} + 6 \text{ hrs } 30 \text{ min} \\ &= 4:30 \text{ p.m.}\end{aligned}$$

Assessment Time 11.3

1. Convert the following:

- a. 16 days = $16 \times 24 =$ **384 hours**
 b. 19 days = $19 \times 24 =$ **456 hours**
 c. 8 days 15 hours = $8 \times 24 + 15$ hours
 = **207 hours**

$$\begin{aligned} \text{d. } 19 \text{ days } 8 \text{ hours} &= 19 \times 24 + 8 \text{ hours} \\ &= \mathbf{464 \text{ hours}} \end{aligned}$$

2. Convert the following:

- $9 \text{ hours} = 9 \times 60 = \mathbf{540 \text{ minutes}}$
- $12 \text{ hours} = 12 \times 60 = \mathbf{720 \text{ minutes}}$
- $18 \text{ hours } 13 \text{ minutes} = 18 \times 60 + 13 = \mathbf{1093 \text{ minutes}}$
- $22 \text{ hours } 16 \text{ minutes} = 22 \times 60 + 16 = \mathbf{1336 \text{ minutes}}$

3. Convert the following:

- $12 \text{ minutes} = 12 \times 60 = \mathbf{720 \text{ seconds}}$
- $16 \text{ minutes} = 16 \times 60 = \mathbf{960 \text{ seconds}}$
- $15 \text{ minutes } 14 \text{ seconds} = 15 \times 60 + 14 = \mathbf{914 \text{ seconds}}$
- $28 \text{ minutes } 8 \text{ seconds} = 28 \times 60 + 8 = \mathbf{1688 \text{ seconds}}$

Assessment Time 11.4

1. Add the following:

a.

	hrs	min
	1	
	23	36
+	85	3
	31	89

or 32 hrs 29 min

b.

	hrs	min
	1	1
	28	34
	12	38
+	22	32
	62	104

or 63 hrs 44 min

c.

	hrs	min	sec
	1	1	1
	18	12	39
+	15	49	45
	33	61	84

or 34 hrs 2 min 24 sec

d.

	hrs	min	sec
	1	2	
	17	24	41
	12	37	16
+	32	19	54
	61	80	111

or 62 hrs 21 min 51 sec

2. Subtract the following:

$$\begin{aligned} \text{a. } 20 \text{ hrs } 20 \text{ min} \\ &= 19 \text{ hrs } 80 \text{ min} \end{aligned}$$

$$\begin{aligned} \text{b. } 38 \text{ hrs } 29 \text{ min} \\ &= 37 \text{ hrs } 89 \text{ min} \end{aligned}$$

	hrs	min
		7 10
	19	80
-	18	32
	1	48

	hrs	min
	2	17
	37	89
-	19	48
	18	41

- c. 17 hrs 12 min 25 sec = 16 hrs 72 min 25 sec

	hrs	min	sec
		6 12	1 15
	16	72	25
+	13	25	16
	3	47	09

- d. 30 hrs 8 min 29 sec = 29 hrs 67 min 89 sec

	hrs	min	sec
		5 17	
	29	67	89
-	23	18	43
	6	49	46

Mental Maths

- 24 minute 18 seconds = **1458** seconds.
- 4 hours 36 minutes = **276** minutes
- 1650 hours = **4:50** p.m.
- 2:30 p.m. = **1430** hours.
- An hour hand takes **two** round of the face of clock in 24 hours.

Multiple Choice Questions

Tick (✓) the correct option:

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

CHAPTER-12 DATA HANDLING

Assessment Time 12.1

- Car
 - 90
 - 70
 - 370
- 70
 - 100
 - 90
 - 410

3.  represents 10 customer.

Dosa	         
Chowmein	     
Pasta	    
Pizza	       
Macroni	 

Assessment Time 12.2

- 450
 - 300
 - 2019, 2022
 - 2570
- Sports
 - Hockey
 - Table Tennis
 - 20

Model Test Paper-I

(Chapter 1-6)

- A. 1. Round off the following to the nearest 100:

- $716245 \rightarrow 716200$
- $516216 \rightarrow 516200$
- $8781542 \rightarrow 8781500$
- $317289 \rightarrow 317300$
- $712854 \rightarrow 712900$

2. Find the difference of place value of both:

- 5s in 657285

Difference of place value of 5s = $50000 - 5 = 49995$

- 7s in 5728794

Difference of place value of 7s = $700000 - 70 = 699300$

- 6s in 672865

Difference of place value of 6s = $600000 - 60 = 5999400$

- 3s in 593823

Difference of place value of 3s = $3000 - 3 = 2997$

- B. 1. Fill in the blanks:

- a. $6142 + 4728 = 4728 + 6142$
 b. $623 + 519 = 519 + 632$
 c. $8146 + 0 = 8146$
 d. $3072 + (1426 + 5067) = (3072 + 1426) + 5067$
 e. $8146 + 0 = 8146$

2. Number of guavas tree = 2463

Number of pears tree = 3963

$$\begin{aligned}\text{Total numbers of trees} &= 2463 + 3963 \\ &= 6426\end{aligned}$$

Hence, total number of trees is **6426**.

	Th	H	T	O
	1	1		
	2	4	6	3
+	3	9	6	3
	6	4	2	6

C. 1. Simplify the following:

- a. $745628 + 570632 - 97634$
 $= (745628 + 570632) - 97634$
 $= 1316260 - 97634 = \mathbf{1218626}$
 b. $243285 - 62829 - 90635 - 2837$
 $= 243285 - (62829 + 90635 + 2837)$
 $= 243285 - 234007 = \mathbf{86984}$
 c. $52365 - 203045 - 30962 + 189965$
 $= (52365 + 189965) - (203045 + 30962)$
 $= 242330 - 234007 = \mathbf{8323}$
 d. $453628 - 306452 + 203694 - 89634$
 $= (453628 + 203694) - (306452 + 89634)$
 $= 657322 - 396086 = \mathbf{261236}$

2. Total population of a town = 4,28,560

Number of men = 95,650

Number of women = 99,360

Number of children = $4,28,560 - (95,650 + 99,360)$

	TTh	Th	H	T	O
	1	1	1		
	9	5	6	5	0
+	9	9	3	6	0
	1	9	5	0	1

	L	TTh	Th	H	T	O
	3	12				
	4	2	8	5	6	0
-	1	9	5	0	1	0
	2	3	3	5	5	0

$$= 4,28,560 - 1,95,010 = 2,33,550$$

Hence, the number of children in town is 2,33,550.

D. 1. Fill in the blanks:

a. $32 \times 40 = 1280$

b. $83 \times 90 = 7470$

c. $17 \times 9 = 153$

d. $18 \times 5 = 90$

e. $12 \times 8 = 96$

f. $5 \times 16 = 80$

2. Number of balls a box contain = 32

$$\begin{aligned} \text{Number of balls 12 box contain} &= 32 \times 12 \\ &= 384 \end{aligned}$$

There are 384 balls in 12 such boxes.

	H	T	O
	1	1	
		3	2
$\times$		1	2
		6	4
	3	2	0
	3	8	4

E.1. Divide the following and find the quotient and remainder:

a. $93 \div 5$

$$\begin{array}{r} 18 \\ 5 \overline{) 93} \\ \underline{-5} \downarrow \\ 43 \\ \underline{-40} \\ 3 \end{array}$$

$Q = 18, R = 3$

b. $76 \div 8$

$$\begin{array}{r} 9 \\ 8 \overline{) 76} \\ \underline{-72} \\ 4 \end{array}$$

$Q = 9, R = 4$

c. $97 \div 9$

$$\begin{array}{r} 10 \\ 9 \overline{) 97} \\ \underline{-9} \downarrow \\ 07 \\ \underline{-00} \\ 7 \end{array}$$

$Q = 10, R = 7$

d. $74 \div 6$

$$\begin{array}{r} 12 \\ 6 \overline{) 74} \\ \underline{-6} \downarrow \\ 14 \\ \underline{-12} \\ 2 \end{array}$$

$Q = 12, R = 2$

2. Cost of 8 football = ₹ 1024

$$\begin{aligned} \text{Cost of 1 football} &= ₹ \frac{1024}{8} \\ &= ₹ 128 \end{aligned}$$

Hence, the cost of 1 football is ₹ 128.

$$\begin{array}{r} 128 \\ 8 \overline{) 1024} \\ \underline{-8} \downarrow \\ 22 \\ \underline{-16} \downarrow \\ 64 \\ \underline{-64} \\ 0 \end{array}$$

3. Fill in the blanks:

- a. $702 \div 0 = \text{meaningless}$ b. $7328 \div 1 = 7328$
 c. $9281 \div 9281 = 1$ d. $0 \div 618 = 0$
 e. $706 \div 1 = 706.$ f. $5283 \div 1 = 5283$
 g. $425 \div 425 = 1$ h. $0 \div 5729 = 0$

F.1. Fill in the blanks:

- a. 4 and 5 are **co-prime** number
 b. Prime number has **2** factor.
 c. The first prime number is **2**
 d. **1** is neither prime nor composite.

2. Find all the factors of the following numbers:

- a. 68 can be written as
 $68 = 1 \times 68, 68 = 2 \times 34, 68 = 4 \times 17$
 Hence, factors of 68 are 1, 2, 4, 17 and 68
- b. 88 can be written as
 $88 = 1 \times 88, 88 = 2 \times 44, 88 = 4 \times 22, 88 = 8 \times 11$
 Hence, factors of 88 are 1, 2, 4, 8, 11, 22, 44 and 88
- c. 30 can be written as
 $30 = 1 \times 30, 30 = 2 \times 15, 30 = 3 \times 10, 30 = 5 \times 6$
 Hence, the factors of 30 are 1, 2, 3, 5, 6, 10, 15 and 30
- d. 96 can be written as
 $96 = 1 \times 96, 96 = 2 \times 48, 96 = 3 \times 32, 96 = 4 \times 24, 96 = 6 \times 16, 96 = 8 \times 12$
 Hence, factors of 96 are 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48 and 96
- e. 100 can be written as
 $100 = 1 \times 100, 100 = 2 \times 50, 100 = 4 \times 25, 100 = 5 \times 20, 100 = 10 \times 10$
 Hence, factors of 100 are 1, 2, 4, 5, 10, 20, 25, 50 and 100
- f. 18 can be written as
 $18 = 1 \times 18, 18 = 2 \times 9, 18 = 3 \times 6$
 Hence, the factor of 18 are 1, 2, 3, 6, 9 and 18
- g. 90 can be written as
 $90 = 1 \times 90, 90 = 2 \times 45, 90 = 3 \times 30, 90 = 5 \times 18, 90$

$$= 6 \times 15, 90 = 9 \times 10$$

Hence, the factor of 90 are 1, 2, 3, 5, 6, 9, 10, 15, 30, 45 and 90

h. 46 can be written as

$$46 = 1 \times 46, 46 = 2 \times 23$$

Hence, factors of 46 are 1, 2, 23 and 46

3. Write all the prime numbers between: (Do yourself)

4. Tick (✓) the correct answers:

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

5. Do Yourself

Model Test Paper-II

Chapter-7 to 12

A.1. Find the sum of the following fractions:

a. $\frac{6}{19} + \frac{12}{19} = \frac{6+12}{19} = \frac{18}{19}$

b. $\frac{16}{23} + \frac{4}{23} = \frac{16+4}{23} = \frac{20}{23}$

2. Write each of the following fractions in words:

a. $\frac{2}{5}$ = Two-fifths

b. $\frac{4}{5}$ = Four-fifth

c. $\frac{5}{7}$ = Five-sevenths

d. $\frac{1}{4}$ = One-fourth

3. Add the following like fractions.

a. $\frac{2}{7} + \frac{1}{7} = \frac{2+1}{7} = \frac{3}{7}$

b. $\frac{10}{33} + \frac{2}{33} + \frac{4}{33} = \frac{10+2+4}{33} = \frac{16}{33}$

c. $\frac{1}{14} + \frac{3}{14} + \frac{5}{14} = \frac{1+3+5}{14} = \frac{9}{14}$

d. $\frac{5}{19} + \frac{2}{19} = \frac{5+2}{19} = \frac{7}{19}$

4. Total number of students = 55

$$\text{Number of boys} = \frac{1}{5} \times 55 = 11$$

Number of girls = $55 - 11 = 44$

There are 44 girls in the class.

B.1. Fill in the blanks:

- A line segment has **2** end points.
- A ray has not **fixed** length.
- A **point** has no dimensions.
- A line segment is measured with the help of a **ruler**.

2. Convert the following.

- 8 km 340 m = **8340** m
- 23 kg 38 g = **23038** g
- 91 hL 38 L = **91038** L
- 1528 g = **1** kg **528** g
- 7328 mg = **73** dg **23** mg
- 8136 mg = **8** g **136** mg

C.1. Add the following:

a.

	kg		g	
	1	1		
	78	374		
+	67	085		
	145	459		

b.

	kg		g	
	1	1	1	2
	386	057		
	213	136		
+	328	429		
	927	622		

c.

	L		mL	
	1	1	2	
	426	048		
	504	159		
+	159	267		
	1089	474		

d.

	km		m	
	1	1		
	44	825		
+	37	157		
	81	982		

e.

	m		cm	
	1	1	1	
	524	87		
+	192	24		
	717	11		

f.

	m		cm	
	1	2	1	1
	139	28		
	246	63		
+	358	42		
	744	33		

D.1. Multiply the following:

a. ₹ 463.43 × 6

	₹		p	
	3	2	2	1
	463	43		
×				6
	2780	58		

b. ₹ 528.63 × 8

	₹		p	
	2	6	5	2
	528	63		
×				8
	4229	04		

c. ₹ 476.05 × 3

	₹			p
	2	1	1	
	4	7	6	05
×				3
	1	4	2	815

d. ₹ 456.38 × 8

	₹				p
	4	5	3	6	
	4	5	6	3	8
×					8
	3	6	5	10	4

e. ₹ 47.85 × 6

	₹				p
	2	4	5	3	
	4	7	8	5	
×					6
	2	8	7	1	0

f. ₹ 392.37 × 7

	₹				p
	6	1	2	4	
	3	9	2	3	7
×					7
	2	7	4	6	59

2. Divide the following:

a. ₹ 495.81 ÷ 3

₹ 495.81 ÷ 3

Since, ₹ 1 = 100 paise

$$= (495.81 \times 100) \text{ paise} = 49581 \text{ paise}$$

$$\text{So, } 16527 \text{ paise} = ₹ (16527 \div 100)$$

$$= ₹ 165.27$$

$$\text{Hence, } ₹ 495.81 \div 3 = ₹ 165.27$$

$$\begin{array}{r} 16527 \\ 3 \overline{) 49581} \\ \underline{-3} \downarrow \\ 19 \\ \underline{-18} \downarrow \\ 15 \\ \underline{-15} \downarrow \\ 08 \\ \underline{-06} \downarrow \\ 21 \\ \underline{-21} \\ 0 \end{array}$$

b. ₹ 5235.04 ÷ 8

Since, ₹ 1 = 100 paise

$$₹ 5235.04 = (5235.04 \times 100) \text{ paise}$$

$$= 523504 \text{ paise}$$

$$65438 \text{ paise} = ₹ (65438 \div 100)$$

$$= ₹ 654.38$$

$$\text{Hence, } ₹ 5235.04 \div 8 = ₹ 654.38$$

$$\begin{array}{r} 65438 \\ 8 \overline{) 523504} \\ \underline{-48} \downarrow \\ 43 \\ \underline{-40} \downarrow \\ 35 \\ \underline{-32} \downarrow \\ 30 \\ \underline{-24} \downarrow \\ 64 \\ \underline{-64} \\ 0 \end{array}$$

c. ₹ 48291.12 ÷ 9

Since, ₹ 1 = 100 paise

$$₹ 48291.12 = (48291.12 \times 100) \text{ paise}$$

$$= 4829112 \text{ paise}$$

$$536568 \text{ paise} = ₹ (536568 \div 100)$$

$$= ₹ 5365.68$$

$$\text{Hence, } ₹ 48291.12 \div 9 = ₹ 5365.68$$

$$\begin{array}{r} 536568 \\ 9 \overline{) 4829112} \\ \underline{-45} \\ 32 \\ \underline{-27} \\ 59 \\ \underline{-54} \\ 51 \\ \underline{-45} \\ 61 \\ \underline{-54} \\ 72 \\ \underline{-72} \\ 0 \end{array}$$

d. ₹ 16484.86 ÷ 7

Since, ₹ 1 = 100 paise

$$₹ 16484.86 = (16484.86 \times 100) \text{ paise}$$

$$= 1648486 \text{ paise}$$

$$235498 \text{ paise} = ₹ (235498 \div 100)$$

$$= ₹ 2354.98$$

$$\text{Hence, } ₹ 16484.86 \div 9 = ₹ 2354.98$$

$$\begin{array}{r} 235498 \\ 7 \overline{) 1648486} \\ \underline{-14} \\ 24 \\ \underline{-21} \\ 38 \\ \underline{-35} \\ 34 \\ \underline{-28} \\ 68 \\ \underline{-63} \\ 56 \\ \underline{-56} \\ 0 \end{array}$$

E.1. Convert the following:

a. 16 days = $16 \times 24 = 384$ hours

b. 12 hours = $12 \times 60 = 720$ minutes

c. 18 hours 13 minutes = $18 \times 60 + 13 = 1093$ minutes

d. 12 minutes = $12 \times 60 = 720$ seconds

2. Mohan went to trade fair = 10:00 a.m.

He returned = 10:00 a.m. + 6 hrs 30 min

$$= 4:30 \text{ p.m.}$$

3. Tick (✓) the correct option:

1. (b)

2. (c)

3. (b)

4. (b)