

Focus on

MATHEMATICS

Teacher's Manual
Class 4



TEACHER'S HELP BOOK

MATHEMATICS-4

Practice Exercise 1.1

1. (a) $1000 + 200 + 200 + 100 + 20 + 3 = 1523$ (b) $1000 + 1000 + 200 + 100 + 30 + 2 = 2332$
2. (a) $2465 =$ Two thousand four hundred sixty five. (b) $8356 =$ Eight thousand three hundred fifty six.
3. (a) Four thousand four hundred seven = 4407 (b) Five thousand seventy five = 5075
4. (a) $2319 < 2519$ (b) $5250 < 5502$ (c) $3742 > 3724$ (d) $6904 < 6940$
5. (b) $7471 = 7000$ (c) $6219 = 9$ (d) $8206 = 200$
6. (a) $2000 + 400 + 50 + 6 = 2456$ (b) $3000 + 90 + 8 = 3098$ (c) $6000 + 300 + 20 = 6320$ (d) $5000 + 5 = 5005$
7. (a) $4000 - 1 = 3999$ (b) $5270 + 1 = 5271$ (c) 3 (d) 6000 (e) 0
8. (a) Greatest = 9540, Smallest = 4059 (b) Greatest = 8751, Smallest = 1578
9. (a) 3035, 3217, 3315, 3479 (b) 4398, 4893, 4978, 4983

Practice Exercise 1.2

1. (b) $30,091 =$ Thirty thousand ninety one.
(c) $64,803 =$ Sixty four thousand eight hundred three.
(d) $87,392 =$ Eighty seven thousand three hundred ninety two.
(e) $90,006 =$ Ninety thousand six.
2. (b) $32,092$ (c) $59,003$ (d) $75,005$ (e) $83,806$
3. (b) $34,616 = 30,000 + 4,000 + 600 + 10 + 6$
(c) $70,525 = 70,000 + 500 + 20 + 5$
(d) $85,320 = 80,000 + 5,000 + 300 + 20$
(e) $94,840 = 90,000 + 4,000 + 800 + 40$
4. (b) $60,000 + 7,000 + 0 + 50 + 3 = 67,053$
(c) $80,000 + 4,000 + 600 + 20 + 5 = 84,625$
(d) $60,000 + 5,000 + 0 + 40 + 6 = 65,046$

(e) $80,000 + 3,000 + 0 + 90 + 4 = 83,094$

- 5.** (b) $42,531 = 4 \times 10000 = 40000$ (c) $73,190 = 0 = 0$ (d) $23,165 = 5 \times 1 = 5$ (e) $47,444 = 4 \times 100 = 400$ (f) $60,153 = 5 \times 10 = 50$ (g) $39,846 = 3 \times 10000 = 30,000$ (h) $53,462 = 5 \times 10000 = 50,000$

Practice Exercise 1.3

- 1.** (a) $627452 = 6,27,452$ (b) $549232 = 5,49,232$ (c) $204870 = 2,04,870$ (d) $2100906 = 21,00,906$ (e) $809103 = 8,09,103$ (f) $621737 = 6,21,737$

2. (a) $3,92,171 =$ Three lakhs ninety two thousand one hundred seventy one.

(b) $4,62,005 =$ Four lakhs sixty two thousand five.

(c) $2,85,802 =$ Two lakhs eighty five thousand eight hundred two.

(d) $5,04,326 =$ Five lakhs four thousand three hundred twenty six.

(e) $2,00,564 =$ Two lakh five hundred sixty four.

(f) $7,63,408 =$ Seven lakh sixty three thousand four hundred eight.

- 3.** (b) $3,00,005$ (c) $5,20,432$ (d) $7,45,200$ (e) $2,72,034$

- 4.** (b) $5,06,213 = 5,00,000 + 0 + 6,000 + 200 + 10 + 3$

(c) $4,23,170 = 4,00,000 + 20,000 + 3,000 + 100 + 70$

(d) $5,71,264 = 5,00,000 + 70,000 + 1,000 + 200 + 60 + 4$

- 5.** (b) $6,95,343$ (c) $5,06,461$ (d) $4,22,555$ (e) $3,83,736$

- 6.** (b) $8,14,510 = 8 \times 10,000 = 80,000$ (c) $3,91,083 = 9 \times 10,000 = 90,000$ (d) $1,29,372 = 3 \times 100 = 300$

Practice Exercise 1.4

- 1.** (a) $>$ (b) $>$ (c) $>$ (d) $<$ (e) $<$ (f) $>$ **2.** (a) $56,862$ (b) $4,72,430$

- 3.** (a) $20,486$ (b) $5,22,874$ **4.** (a) $21,631; 24,316; 24,631; 26,341$ (b) $5,37,481; 5,48,371; 5,73,184; 5,84,371$ **5.** (a) $69,430; 64,930; 63,469; 60,964$ (b) $76,425; 75,245; 74,625; 72,645$

Practice Exercise 1.5

1.	Digits	Greatest	Smallest
(a)	8, 7, 2, 5, 4	87,542	24,578
(b)	5, 9, 6, 4, 1	96,541	14,569
(c)	2, 7, 3, 8, 5	87,532	23,578
(d)	1, 0, 9, 2, 6	96,210	10,269

2.	Digits	Greatest	Smallest
(a)	6, 9, 4, 3, 1, 2	9,64,321	1,23,469
(b)	2, 6, 5, 9, 7, 3	9,76,532	2,35,679
(c)	1, 0, 5, 8, 6, 7	8,76,510	1,05,678
(d)	6, 8, 7, 0, 5, 3	8,76,530	3,05,678

3. (a) Greatest Number = 98,765 ; Smallest Number = 10,234

(b) Greatest Number = 9,87,654 ; Smallest Number = 1,02,345

Practice Exercise 1.6

1. (a) 25 → 25 is half way between 20 and 30. So it is rounded off to larger number i.e. 30.
- (b) 49 → 49 is nearer to 50. So, 49 is rounded off to 50.
- (c) 384 → 384 is nearer to 380. So, 384 is rounded off to 380.
- (d) 536 → 536 is nearer to 540. So, 536 is rounded off to 540.
- (e) 781 → 781 is nearer to 780. So, 781 is rounded off to 780.
- (f) 824 → 824 is nearer to 820. So, 824 is rounded off to 820.
- (g) 962 → 962 is nearer to 960. So, 962 is rounded off to 960
- (h) 669 → 669 is nearer to 670. So, 669 is rounded off to 670.
2. (a) 235 → 235 is nearer to 200. So, 235 is rounded off to 200.
- (b) 3650 → 3650 is half way between 3600 and 37,00. So it is rounded off to the larger number 3700.
- (c) 825 → 825 is nearer to 800. So, 825 is rounded off to 800.
- (d) 4211 → 4211 is nearer to 4200. So, 4211 is rounded off to 4200.
- (e) 4443 → 4443 is nearer to 4400. So, 4443 is rounded off to 4400.
- (f) 723 → 723 is nearer to 700. So, 723 is rounded off to 700.
- (g) 586 → 586 is nearer to 600. So, 586 is rounded off to 600.
- (h) 4516 → 4516 is nearer to 4500. So, 4516 is rounded off to 4500.
3. (a) 6825 → 6825 is nearer to 7000. So 6825 is rounded off to 7000.
- (b) 2500 → 2500 is half between 2000 and 3000. So, it is rounded off to the larger number i.e. 3000.
- (c) 4232 → 4232 is nearer to 4000. So, 4232 is rounded off to 4000.

- (d) 5649 → 5649 is nearer to 6000. So, 5649 is rounded off to 6000.
- (e) 35869 → 35869 is nearer to 36000. So, 35869 is rounded off to 36000.
- (f) 68700 → 68700 is nearer to 69000. So, 68700 is rounded off to 69000.
- (g) 36,294 → 36,294 is nearer to 36000. So, 36294 is rounded off to 36000.
- (h) 71618 → 71618 is nearer to 72000. So, 71618 is rounded off to 72000.

Mental math zone

- 1.** (a) 6,52,179 = Six lakhs fifty two thousand one hundred seventy nine. (b) 4,25,173 = Four lakhs twenty five thousand one hundred seventy three. **2.** (a) 2,42,850 (b) 48,080 (c) 3,522 **3.** (a) 28,999 is 29000 (b) 69,289 is 69,290 (c) 4,23,539 is 4,23,540 (d) 63,450 is 63,451

Multiple Choice Questions MCQs

- 1.** Which is the same as 30 tens ? = 3 hundreds
2. The sum of the place value of two 5's in 501506 is = 500500
3. A six-digit number begin with → lakh.

Practice Exercise 2.1

- 1.** (a) XXIV = X + X + IV = 10 + 10 + 4 = 24
(b) XVII = X + V + I + I = 10 + 5 + 1 + 1 = 17
(c) XCV = XC + V = 90 + 5 = 95
(d) XLV = XL + V = 40 + 5 = 45
(e) XCII = XC + II = 90 + 2 = 92
(f) XLIV = XL + IV = 40 + 4 = 44
- 2.** (a) 12 = XII (b) 17 = XVII (c) 23 = XXIII (d) 28 = XXVIII (e) 35 = XXXV (f) 40 = XL (g) 76 = LXXVI
- 3.** (a) LXX = 70 (b) XXIII = 23 (c) XLIV = 44 (d) XX = 20 (e) CXXIV = 124 (f) CXXVII = 127 **4.** (a) < (b) = (c) < (d) > (e) > (f) > **5.** (a) LXXXVII (b) LXXV (c) XLVIII (d) XXIX (e) XXXIII **6.** (a) three (b) L (c) X, once (d) L, once

Mental math zone

- 1.** (a) F (b) T (c) F (d) T **2.** Do it yourself

Multiple Choice Questions MCQs

1. 109 is same as $100 + 9 = C + IX = CIX$

2. $XIX + XXX = 19 + 30 = 49 = 40 + 9 = XL + IX = XLIX$

3. $XL - \square = XXIX$

$$40 - \square = 29$$

$$40 - 29 = \square$$

$$11 = \square$$

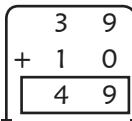
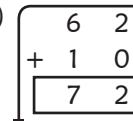
$$XI = \square$$

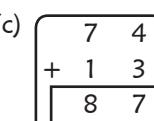
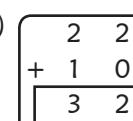
Activity Wizard

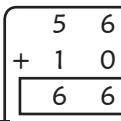
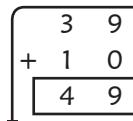
Do Yourself.

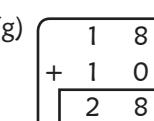
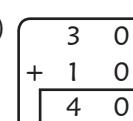
Practice Exercise 3.1

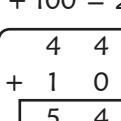
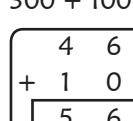
1. (a) $2435 + 3475 = 3475 + 2435$ (b) $4885 + 3025 = 3025 + 4885$
(c) $5801 + 0 = 5801$ (d) $6735 + 0 = 6735$

2. (a)  $39 + 10 = 49$
(b)  $62 + 10 = 72$

(c)  $74 + 13 = 87$
(d)  $22 + 10 = 32$

(e)  $56 + 10 = 66$
(f)  $396 + 100 = 496$

(g)  $185 + 100 = 285$
(h)  $300 + 100 = 400$

(i)  $443 + 100 = 543$
(j)  $463 + 100 = 563$

(k)

4	2	2
+	5	0
9 2 2		

$$422 + 500 = 922$$

(l)

6	3	3
+	1	0
6 4 3		

$$633 + 10 = 643$$

3. (a)
- | | | |
|-------|---|---|
| 3 | 2 | 4 |
| + | 2 | 4 |
| 5 6 6 | | |
- (b)
- | | | |
|-------|---|---|
| 1 | | |
| 7 | 7 | 6 |
| + | 1 | 9 |
| 9 6 7 | | |
- (c)
- | | | |
|-------|---|---|
| 3 | 6 | 0 |
| + | 2 | 2 |
| 5 8 0 | | |
- (d)
- | | | |
|-------|---|---|
| 5 | 6 | 3 |
| + | 1 | 1 |
| 6 7 5 | | |
- (e)
- | | | |
|-------|---|---|
| 2 | 6 | 5 |
| + | 1 | 4 |
| 4 0 7 | | |
- (f)
- | | | |
|-------|---|---|
| 4 | 1 | 3 |
| + | 2 | 1 |
| 6 2 3 | | |

Practice Exercise 3.2

1. (a)
- | | | | | |
|-----------|---|---|---|---|
| 3 | 7 | 4 | 3 | 6 |
| + | 5 | 2 | 2 | 3 |
| 8 9 6 6 7 | | | | |
- (b)
- | | | | | |
|-----------|---|---|---|---|
| 2 | 1 | 2 | 5 | 2 |
| + | 3 | 8 | 3 | 4 |
| 5 9 5 9 2 | | | | |
- (c)
- | | | | | |
|-----------|---|---|---|---|
| 4 | 9 | 3 | 6 | 3 |
| + | 4 | 0 | 4 | 3 |
| 8 9 7 9 9 | | | | |
- (d)
- | | | | | |
|-----------|---|---|---|---|
| 2 | 2 | 4 | 0 | 2 |
| + | 7 | 6 | 2 | 9 |
| 9 8 6 9 3 | | | | |
- (e)
- | | | | | |
|-----------|---|---|---|---|
| 8 | 2 | 1 | 5 | 3 |
| + | 1 | 6 | 8 | 3 |
| 9 8 9 8 7 | | | | |
- (f)
- | | | | | |
|-----------|---|---|---|---|
| 3 | 1 | 8 | 7 | 3 |
| + | 3 | 8 | 0 | 1 |
| 6 9 8 8 8 | | | | |
- (g)
- | | | | | |
|-----------|---|---|---|---|
| 3 | 2 | 4 | 6 | 2 |
| + | 1 | 7 | 3 | 2 |
| 4 9 7 8 6 | | | | |
- (h)
- | | | | | |
|-----------|---|---|---|---|
| 4 | 4 | 4 | 9 | 3 |
| + | 1 | 3 | 4 | 0 |
| 5 7 8 9 3 | | | | |
- (i)
- | | | | | |
|-----------|---|---|---|---|
| 2 | 1 | 4 | 6 | 1 |
| + | 5 | 6 | 3 | 2 |
| 7 7 7 8 3 | | | | |

Practice Exercise 3.3

1. (a)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} \\
 5 \quad 3 \quad 2 \quad 1 \quad 3 \\
 + \quad 3 \quad 7 \quad 4 \quad 2 \quad 2 \\
 \hline
 9 \quad 0 \quad 6 \quad 3 \quad 5
 \end{array}$$

(b)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \quad \boxed{1} \quad \boxed{1} \quad \boxed{} \\
 1 \quad 6 \quad 7 \quad 4 \quad 5 \\
 + \quad 4 \quad 8 \quad 7 \quad 7 \quad 7 \\
 \hline
 6 \quad 5 \quad 5 \quad 2 \quad 2
 \end{array}$$

(c)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{} \quad \boxed{} \quad \boxed{1} \quad \boxed{} \\
 3 \quad 7 \quad 5 \quad 5 \quad 3 \\
 + \quad 2 \quad 5 \quad 3 \quad 2 \quad 7 \\
 \hline
 6 \quad 2 \quad 8 \quad 8 \quad 0
 \end{array}$$

(d)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \quad \boxed{} \quad \boxed{} \quad \boxed{} \\
 5 \quad 4 \quad 7 \quad 2 \quad 4 \\
 + \quad 2 \quad 7 \quad 4 \quad 3 \quad 3 \\
 \hline
 8 \quad 2 \quad 1 \quad 5 \quad 7
 \end{array}$$

(e)

$$\begin{array}{r}
 \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{1} \quad \boxed{} \\
 3 \quad 2 \quad 7 \quad 3 \quad 5 \\
 + \quad 4 \quad 5 \quad 0 \quad 2 \quad 5 \\
 \hline
 7 \quad 7 \quad 7 \quad 6 \quad 0
 \end{array}$$

(f)

$$\begin{array}{r}
 \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} \quad \boxed{} \\
 6 \quad 0 \quad 6 \quad 1 \quad 8 \\
 + \quad 1 \quad 7 \quad 2 \quad 6 \quad 1 \\
 \hline
 7 \quad 7 \quad 8 \quad 7 \quad 9
 \end{array}$$

2. (a)

$$\begin{array}{r}
 \boxed{} \quad \boxed{} \quad \boxed{1} \quad \boxed{} \quad \boxed{} \\
 3 \quad 3 \quad 2 \quad 8 \quad 2 \\
 + \quad 2 \quad 4 \quad 6 \quad 8 \quad 4 \\
 \hline
 5 \quad 7 \quad 9 \quad 6 \quad 6
 \end{array}$$

(b)

$$\begin{array}{r}
 \boxed{} \quad \boxed{1} \quad \boxed{1} \quad \boxed{} \quad \boxed{} \\
 6 \quad 4 \quad 3 \quad 6 \quad 3 \\
 + \quad 1 \quad 3 \quad 9 \quad 8 \quad 0 \\
 \hline
 7 \quad 8 \quad 3 \quad 4 \quad 3
 \end{array}$$

(c)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \quad \boxed{} \quad \boxed{} \quad \boxed{} \\
 1 \quad 9 \quad 8 \quad 0 \quad 3 \\
 + \quad 2 \quad 8 \quad 3 \quad 2 \quad 1 \\
 \hline
 4 \quad 8 \quad 1 \quad 2 \quad 4
 \end{array}$$

(d)

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

(e)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \quad \boxed{} \quad \boxed{} \quad \boxed{} \\
 1 \quad 8 \quad 6 \quad 3 \quad 3 \\
 + \quad 2 \quad 8 \quad 7 \quad 1 \quad 1 \\
 \hline
 4 \quad 7 \quad 3 \quad 4 \quad 4
 \end{array}$$

(f)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \quad \boxed{1} \quad \boxed{} \quad \boxed{} \\
 2 \quad 4 \quad 9 \quad 8 \quad 3 \\
 + \quad 1 \quad 8 \quad 1 \quad 6 \quad 1 \\
 \hline
 4 \quad 3 \quad 1 \quad 4 \quad 4
 \end{array}$$

(g)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \quad \boxed{1} \quad \boxed{} \quad \boxed{} \\
 2 \quad 0 \quad 0 \quad 0 \quad 1 \\
 3 \quad 3 \quad 2 \quad 4 \quad 2 \\
 + \quad 2 \quad 6 \quad 7 \quad 8 \quad 3 \\
 \hline
 8 \quad 0 \quad 0 \quad 2 \quad 6
 \end{array}$$

(g)

$$\begin{array}{r}
 \boxed{1} \quad \boxed{1} \quad \boxed{1} \quad \boxed{1} \quad \boxed{} \\
 1 \quad 3 \quad 2 \quad 1 \quad 0 \\
 2 \quad 3 \quad 9 \quad 8 \quad 4 \\
 + \quad 1 \quad 6 \quad 0 \quad 1 \quad 6 \\
 \hline
 5 \quad 3 \quad 2 \quad 1 \quad 0
 \end{array}$$

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

Practice Exercise 3.4

• • • • •

1. (a)
- | | | | | | |
|-----|---|---|---|---|---|
| 3 | 2 | 1 | 3 | 5 | 7 |
| + 1 | 5 | 6 | 4 | 3 | 2 |
| 4 | 7 | 7 | 7 | 8 | 9 |
- (b)
- | | | | | | |
|-----|---|---|---|---|---|
| 5 | 0 | 2 | 3 | 5 | 5 |
| + 3 | 5 | 6 | 3 | 4 | |
| 5 | 2 | 7 | 9 | 8 | 9 |
- (c)
- | | | | | | |
|-----|---|---|---|---|---|
| 2 | 1 | 3 | 2 | 4 | 5 |
| + 4 | 3 | 4 | 6 | 5 | 1 |
| 6 | 4 | 7 | 8 | 9 | 6 |
- (d)
- | | | | | | |
|-----|---|---|---|---|---|
| 7 | 5 | 2 | 8 | 1 | 3 |
| + 1 | 0 | 7 | 0 | 4 | 5 |
| 8 | 5 | 9 | 8 | 5 | 8 |
- (e)
- | | | | | | |
|-----|---|---|---|---|---|
| 3 | 2 | 1 | 7 | 4 | 6 |
| + 6 | 5 | 4 | 0 | 2 | 3 |
| 9 | 7 | 5 | 7 | 6 | 9 |
- (f)
- | | | | | | |
|-----|---|---|---|---|---|
| 2 | 4 | 7 | 5 | 2 | 1 |
| + 4 | 4 | 0 | 1 | 2 | 5 |
| 6 | 8 | 7 | 6 | 4 | 6 |
- (g)
- | | | | | | |
|-----|---|---|---|---|---|
| 2 | 3 | 1 | 7 | 8 | 6 |
| + 5 | 6 | 2 | 2 | 1 | 1 |
| 7 | 9 | 3 | 9 | 9 | 7 |
- (h)
- | | | | | | |
|-----|---|---|---|---|---|
| 3 | 5 | 4 | 3 | 2 | 1 |
| + 2 | 2 | 3 | 4 | 5 | 6 |
| 5 | 7 | 7 | 7 | 7 | 7 |
2. (a)
- | | | | | | |
|-----|---|---|---|---|---|
| 1 | 2 | 8 | 5 | 1 | 7 |
| + 3 | 1 | 0 | 3 | 2 | 1 |
| 4 | 3 | 8 | 8 | 3 | 8 |
- (b)
- | | | | | | |
|-----|---|---|---|---|---|
| 2 | 2 | 4 | 6 | 8 | 2 |
| + 3 | 2 | 5 | 2 | 1 | 5 |
| 5 | 4 | 9 | 8 | 9 | 7 |
- (c)
- | | | | | | |
|-----|---|---|---|---|---|
| 1 | 8 | 6 | 2 | 5 | 7 |
| + 6 | 1 | 3 | 4 | 3 | 2 |
| 7 | 9 | 9 | 6 | 8 | 9 |
- (d)
- | | | | | | |
|-----|---|---|---|---|---|
| 4 | 3 | 8 | 5 | 2 | 6 |
| + 1 | 2 | 1 | 4 | 3 | 2 |
| 5 | 5 | 9 | 9 | 5 | 8 |
- (e)
- | | | | | | |
|-----|---|---|---|---|---|
| 5 | 1 | 7 | 3 | 5 | 5 |
| + 2 | 7 | 2 | 6 | 4 | 4 |
| 7 | 8 | 9 | 9 | 9 | 9 |
- (f)
- | | | | | | |
|-----|---|---|---|---|---|
| 3 | 0 | 0 | 8 | 0 | 8 |
| + 2 | 2 | 2 | 1 | 0 | 1 |
| 5 | 2 | 2 | 9 | 0 | 9 |

(g)

6	2	5	2	8	8
+ 2	4	4	5	1	1
8	6	9	7	9	9

(h)

3	5	8	6	1	6
+ 5	3	1	2	5	2
8	8	9	8	6	8

(i)

2	6	2	4	7	1
+ 3	3	6	5	2	7
5	9	8	9	9	8

Practice Exercise 3.5

1. (a)

□	1	□	1	1	□
2	2	7	1	2	3
+ 2	1	7	2	9	8
4	4	4	4	2	1

(b)

1	1	1	1	1	□
4	4	8	7	8	9
+ 3	9	7	5	1	3
8	4	6	3	0	2

(c)

□	1	□	1	□	□
3	0	7	2	4	3
+ 4	3	3	6	7	5
7	4	0	9	1	8

(d)

1	□	1	1	1	□
2	7	3	8	2	4
+ 1	4	5	3	8	3
4	1	9	2	0	7

(e)

□	1	1	1	1	1	□
5	3	6	4	2	2	
+ 2	4	5	6	9	9	
7	8	2	1	2	1	

(f)

1	1	1	1	1	□
5	8	4	7	4	9
+ 3	2	5	4	6	2
9	1	0	2	1	1

(g)

□	1	1	1	1	1	□
4	4	5	8	4	5	
+ 2	3	6	5	8	9	
6	8	2	4	3	4	

(h)

1	1	1	1	1	□
2	6	4	9	0	8
+ 6	3	6	2	7	5
9	0	1	1	8	3

2. (a)

□	□	1	1	□	□
3	3	2	7	6	2
+ 5	3	4	5	6	3
8	6	7	3	2	5

(b)

1	□	1	1	1	□
1	3	1	7	8	3
+ 2	7	3	4	3	2
4	0	5	2	1	5

(c)

1	1	1	□	□	□
6	4	8	7	8	8
+ 3	9	7	5	1	1
10	4	6	2	9	9

(d)

□	1	1	1	1	□
1	7	5	7	8	4
+ 2	0	5	4	2	5
3	8	1	2	0	9

(e)

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

(f)

1	1	1	1	1	
2	3	9	6	4	7
+ 4	6	3	7	6	6
7 0 3 4 1 3					

(g)

	1		1	1	
2	1	9	4	2	8
+ 4	6	5	0	8	5
6 8 4 5 1 3					

(h)

1	1	1	1	1	
3	3	5	4	2	6
+ 4	8	4	8	7	7
8 2 0 3 0 3					

(i)

1	1	1	1	1	
1	2	7	6	1	9
+ 2	7	2	3	9	2
4 0 0 0 1 1					

Practice Exercise 3.6

- $2000 + 3000 = 5000$ (We add thousand place)
- $45,000 + 4000 = 49,000$ (We add thousand place)
- $20,000 + 10,000 = 30,000$ (We add ten thousand place)
- $24730 + 30 = 24760$ (We add ten place)
- $57546 + 50 = 57596$ (We add ten place)
- $32126 + 40 = 32166$ (We add ten place)
- $32,745 + 200 = 32945$ (We add hundred place)
- $35378 + 5000 = 40,378$ (We add thousand place)
- $58274 + 100 = 58374$ (We add hundred place)

Practice Exercise 3.7

1. A number $= 2\ 7\ 6\ 5\ 4\ 3$

Number exceeds $= + 1\ 3\ 3\ 4\ 5$

Total number $= \underline{\quad 2\ 8\ 9\ 8\ 8\ 8\quad}$

2. A factory manufactured locks in 2009 $= \begin{array}{r} 1 \\ 3\ 4\ 2\ 5\ 8 \end{array}$

A factory manufactured locks in 2010 $= + 5\ 8\ 1\ 3\ 7$

Total locks manufactured in 2 years $= \underline{\quad 9\ 2\ 3\ 9\ 5\quad}$

So, factory manufactured locks in 2 years = 92,395

$$\begin{array}{rcl}
 3. \text{ The population of village A} & = & 2\ 4\ 5\ 7\ 9 \\
 \text{The population of village B} & = + & 2\ 1\ 3\ 5\ 8 \\
 \hline
 \text{Total population of two villages} & = & 4\ 5\ 9\ 3\ 7
 \end{array}$$

So, the population of two villages = 45,937.

	111
4. Sohan bought a car	= ₹ 2 3 5 6 7 3
Sohan spent on accessories	= + ₹ 1 2 3 4 9
Total cost of the car	= ₹ 2 4 8 0 2 2

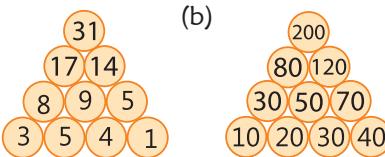
So, the total cost of the car = ₹ 2,48,022

Mental math zone

- 1.** (a) $2413 + 3000 = 5413$ (add 3 at thousand place)
(b) $4364 + 2000 = 6364$ (add 2 at thousand place)
(c) $33114 + 20,000 = 53114$ (add 2 at ten thousand place)
(d) $53869 + 60,000 = 113869$ (add 3 at ten thousand place)

2. (a) $2943 + 1 = 2944$
(b) $3643 + 5825 + 6394 = 5825 + \mathbf{6394} + 3643$
(c) $6543 + 0 = \mathbf{6543}$ (d) $8004 + 1 = \mathbf{8005}$

3. (a) 82 (b) 258 (c) 7957 (d) 9449



Note : The number on the top is the sum of two numbers below it.

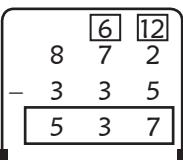
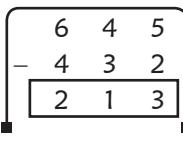
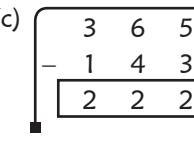
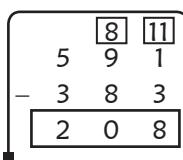
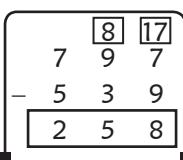
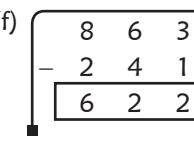
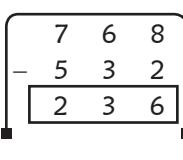
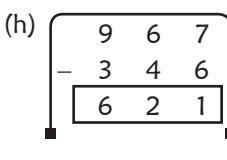
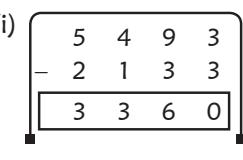
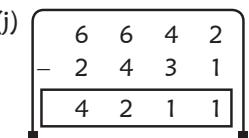
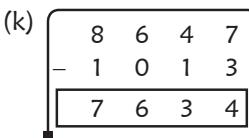
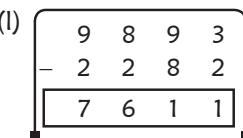
Multiple Choice Questions MCQs

1. The sum of the greatest 6-digit number and smallest 4-digit number is = $999999 + 1000 = 1000999$
 2. The number which is 10000 more than 3,54,871 is = $354871 + 10000 = 364871$
 3. 100 more than 999999 equals = $999999 + 100 = 1000099$

Activity Wizard

Do yourself

Practice Exercise 4.1

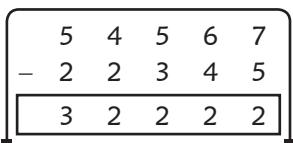
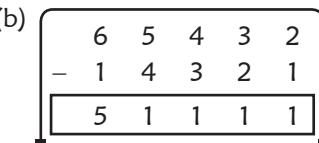
1. (a) 
- (b) 
- (c) 
- (d) 
- (e) 
- (f) 
- (g) 
- (h) 
- (i) 
- (j) 
- (k) 
- (l) 

Practice Exercise 4.2

1. (a) $55685 - 400 = 55285$ (We subtract 4 from hundred place)
- (b) $66,453 - 5000 = 61,453$ (We subtract 5 from thousand place)
- (c) $65,876 - 200 = 65,676$ (We subtract 2 from hundred place)
- (d) $74,765 - 30000 = 44,765$ (We subtract 3 from ten thousand place)
- (e) $39,000 - 8000 = 31,000$ (We subtract 8 from thousand place)
- (f) $60,000 - 50,000 = 10,000$ (We subtract 5 from ten thousand place)
- (g) $84,276 - 80 = 84196$ (We subtract 8 from ten place)
- (h) $54,567 - 10,000 = 44,567$ (We subtract 10 from ten thousand place)

Practice Exercise 4.3

1. (a) 31143 (b) 43132 (c) 21123 (d) 22122 (e) 42224 (f) 11244
 (g) 21221 (h) 62224 (i) 31552

2. (a) 
- (b) 

(c)

6	7	6	5	4
-	3	4	5	2
3	3	1	3	1

(d)

7	7	6	5	4
-	4	6	5	4
3	1	1	1	1

(e)

8	7	3	8	4
-	2	4	1	5
6	3	2	3	6

(f)

7	5	4	3	7
-	3	4	1	2
4	1	3	1	2

(g)

6	7	7	7	7
-	2	4	5	6
4	3	2	1	1

(h)

8	8	5	6	9
-	2	5	3	4
6	3	2	2	2

(i)

9	3	5	6	9
-	3	1	3	5
6	2	2	1	1

Practice Exercise 4.4

1. (a)

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

(b)

□	□	2	16	18
8	8	3	7	8
-	4	6	0	8
4	2	2	8	9

(c)

□	4	17	□	□
6	5	7	8	9
-	3	4	9	7
3	0	8	1	1

(d)

5	12	12	0	15
6	3	2	1	5
-	2	7	8	0
3	5	4	0	9

(e)

□	□	6	15	15
7	9	7	6	5
-	1	3	4	7
6	6	2	8	7

(f)

□	□	4	13	13
8	6	5	4	3
-	3	5	4	5
5	1	0	8	6

(g)

□	7	14	13	13
9	8	5	4	3
-	4	7	6	9
5	0	8	4	8

(h)

□	4	13	12	12
7	5	4	3	2
-	3	4	5	8
4	0	8	4	3

<input type="checkbox"/>	<input type="checkbox"/> 4	<input checked="" type="checkbox"/> 13	<input checked="" type="checkbox"/> 12	<input checked="" type="checkbox"/> 13
6	5	4	3	3
-	1	3	6	5
5	1	7	7	9

Practice Exercise 4.5

1. (a) 231211 (b) 212112 (c) 231111 (d) 311111

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Practice Exercise 4.6

1. (a) 177889 (b) 190481 (c) 485867 (d) 497775

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	1	7	8	7	6																																																										
	8																																																														

(c)

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-	7	4	9	8	7
	1	3	7	7	7
	4				

(d)

<input type="text"/>	<input type="text"/>	<input type="text"/> 7	<input type="text"/> 13	<input type="text"/> 16	<input type="text"/> 15
2	5	8	4	7	5
-	1	0	1	9	8
	1	5	6	4	8
	8				

(e)

<input type="text"/> 5	<input type="text"/> 12	<input type="text"/> 12	<input type="text"/>	<input type="text"/> 3	<input type="text"/> 13
6	3	2	6	4	3
-	4	7	5	3	2
	1	5	7	3	1
	8				

(f)

<input type="text"/>	<input type="text"/> 3	<input type="text"/> 13	<input type="text"/>	<input type="text"/> 6	<input type="text"/> 18
2	4	3	6	7	8
-	1	1	9	5	1
	1	2	4	1	5
	9				

(g)

<input type="text"/>	<input type="text"/> 6	<input type="text"/> 14	<input type="text"/> 16	<input type="text"/> 14	<input type="text"/>
7	7	5	7	4	3
-	4	4	6	8	9
	3	2	8	8	5
	7				

(h)

<input type="text"/>	<input type="text"/> 7	<input type="text"/> 16	<input type="text"/> 15	<input type="text"/> 15	<input type="text"/>
8	8	7	6	5	6
-	5	5	9	7	8
	3	2	7	8	7
	3				

(i)

<input type="text"/> 7	<input type="text"/> 16	<input type="text"/> 14	<input type="text"/> 14	<input type="text"/>	<input type="text"/>
8	7	5	4	3	5
-	3	8	6	5	3
	4	8	8	9	0
	3				

Practice Exercise 4.7

1. (a) $3,51,743 + 2,21,301 - 2,19,254$

Step - 1

3	5	1	7	4	3
+ 2	2	1	3	0	1
	5	7	3	0	4
	4	8	8	9	0

Step - 2

6	12	9	14	
5	7	3	0	4
- 2	1	9	2	5
	3	5	3	7
	0			

$$3,51,743 + 2,21,301 - 2,19,254 = 3,53,790$$

(b) $5,31,296 + 3,17,175 - 60,178$

Step - 1

5	3	1	2	9	6
+ 3	1	7	1	7	5
	8	4	8	4	7
	1				

Step - 2

7	14		3	16	11
8	4	8	4	7	1
- 6	0	1	7	8	
	7	8	2	9	3

$$5,31,296 + 3,17,175 - 60,178 = 7,88,293$$

$$(c) 6,00,192 + 3,32,170 - 3,99,429$$

Step-1

			1		
6	0	0	1	9	2
+ 3	3	2	1	7	0
9	3	2	3	6	2

Step-2

8	12	11	13	5	12
9	3	2	3	6	2
- 3	9	9	4	2	9
5	3	2	9	3	3

$$6,00,192 + 3,32,170 - 3,99,429 = 5,32,933$$

$$(d) 8,99,999 - 3,22,222 + 2,33,333$$

Step-1

1	1	1	1	1	
8	9	9	9	9	9
+ 2	3	3	3	3	3
1	1	3	3	3	2

Step-2

11					
1	1	3	3	3	2
- 3	2	2	2	2	2
9	1	1	1	1	0

$$8,99,999 - 3,22,222 + 2,33,333 = 9,11,110$$

$$(e) 6,29,516 - 2,02,053 + 35,970 - 28,325$$

Step-1

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

Step-2

1					
2	0	2	0	5	3
- 2	8	3	2	5	
2	3	0	3	7	8

Step-3

1	1	1	1	7	16
6	6	5	4	8	6
- 2	3	0	3	7	8
4	3	5	1	0	8

$$2. \text{ Sum of } 645,327 \text{ and } 2,25,173 =$$

1	1	1			
6	4	5	3	2	7
+ 2	2	5	1	7	3
8	7	0	5	0	0

$$\text{difference of } 645327 \text{ and } 225173 =$$

2	12				
6	4	5	3	2	7
- 2	2	5	1	7	3
4	2	0	1	5	4

From the sum of 645327 and 2,25,173
subtract their difference =

8	7	0	5	0	0
-	4	2	0	1	5
4	5	0	3	4	6

Practice Exercise 4.8

1. The sum of two numbers

$$\begin{array}{r}
 & & & \boxed{6} & \boxed{12} & \boxed{8} & \boxed{15} \\
 & & & 6 & 7 & 2 & 9 & 5 \\
 = & & & - & 3 & 5 & 4 & 8 & 7 \\
 & & & & 3 & 1 & 8 & 0 & 8 \\
 \hline
 \end{array}$$

So, other number = 31,808

2. The population of a town

$$\begin{array}{r}
 & & & \boxed{6} & \boxed{14} & \boxed{11} & \boxed{6} & \boxed{13} \\
 & & & 5 & 7 & 5 & 1 & 7 & 3 \\
 = & & & - & 3 & 5 & 8 & 7 & 4 & 5 \\
 & & & & 2 & 1 & 6 & 4 & 2 & 8 \\
 \hline
 \end{array}$$

So, the number of females = 2,16,428

3. Number

$$\begin{array}{r}
 & & & \boxed{6} & \boxed{11} & \boxed{9} & \boxed{15} \\
 & & & 7 & 2 & 0 & 5 & 4 \\
 = & & & - & 3 & 3 & 1 & 7 & 2 \\
 & & & & 3 & 8 & 8 & 8 & 2 \\
 \hline
 \end{array}$$

So the number added = 38,882.

4. Number of cement bags to

$$\begin{array}{r}
 & & & \boxed{4} & \boxed{9} & \boxed{10} \\
 & & & 1 & 2 & 5 & 0 & 0 & 0 \\
 = & & & - & 1 & 1 & 2 & 4 & 8 & 0 \\
 & & & & 1 & 2 & 5 & 2 & 0 \\
 \hline
 \end{array}$$

Number of cement bags to

be loaded in the first day

$$\begin{array}{r}
 & & & - & 1 & 1 & 2 & 4 & 8 & 0 \\
 & & & & 1 & 2 & 5 & 2 & 0 \\
 \hline
 \end{array}$$

Number of cement bags to

be loaded on the second day

$$\begin{array}{r}
 & & & - & 1 & 1 & 2 & 4 & 8 & 0 \\
 & & & & 1 & 2 & 5 & 2 & 0 \\
 \hline
 \end{array}$$

So, the number of cement bags to

be loaded on the second day

$$= 12,520$$

5. Total number of apples in the orchard =

$$\begin{array}{r}
 & & & \boxed{6} & \boxed{2} & \boxed{12} \\
 & & & 7 & 3 & 2 & 8 & 0 \\
 = & & & - & 4 & 8 & 7 & 4 & 0 \\
 & & & & 2 & 4 & 5 & 4 & 0 \\
 \hline
 \end{array}$$

Total number of apples were picked =

$$\begin{array}{r}
 & & & - & 4 & 8 & 7 & 4 & 0 \\
 & & & & 2 & 4 & 5 & 4 & 0 \\
 \hline
 \end{array}$$

Number of apples rest

$$\begin{array}{r}
 & & & - & 4 & 8 & 7 & 4 & 0 \\
 & & & & 2 & 4 & 5 & 4 & 0 \\
 \hline
 \end{array}$$

4 **13**

So, number of apples rest in an orchard =

2 4 5 4 0

Number of apples fell down in a storm =

- 4 4 7 6

Number of apples left on the trees =

2 0 0 6 4

So, 20064 apples were left on the trees.

3 16 9 9

6. Ananya buy a scooty

= **₹ 4 7 0 0 0**

Ananya needed the money

= **- ₹ 2 8 1 2 1**

Ananya had the money

= **₹ 1 8 8 7 9**

So, Ananya had the money = 18,879

Practice Exercise 4.9

1. (a)

$$\begin{array}{r} 3 & 6 \\ + & 2 & 2 \\ \hline 5 & 8 \end{array}$$

Actual sum

Estimated Sum

$$\begin{array}{r} 4 & 0 \\ + & 2 & 0 \\ \hline 6 & 0 \end{array}$$

nearest 10
nearest 10

(b)

$$\begin{array}{r} & 1 \\ 6 & 2 & 9 \\ + & 4 & 2 & 3 \\ \hline 10 & 5 & 2 \end{array}$$

Actual sum

Estimated Sum

$$\begin{array}{r} 6 & 3 & 0 \\ + & 4 & 2 & 0 \\ \hline 10 & 5 & 0 \end{array}$$

nearest 10
nearest 10

(c)

$$\begin{array}{r} & 1 \\ 2 & 3 & 7 \\ + & 2 & 8 \\ \hline 2 & 6 & 5 \end{array}$$

Actual sum

Estimated Sum

$$\begin{array}{r} 2 & 4 & 0 \\ + & 3 & 0 \\ \hline 2 & 7 & 0 \end{array}$$

nearest 10
nearest 10

2. (a) Actual difference

$$\begin{array}{r} 7 & 8 \\ - & 2 & 8 \\ \hline 5 & 0 \end{array}$$

Estimated difference

$$\begin{array}{r} 8 & 0 \\ - & 3 & 0 \\ \hline 5 & 0 \end{array}$$

nearest 10
nearest 10

(b) Actual difference

$$\begin{array}{r} 2 & 5 & 7 \\ - & 1 & 2 & 3 \\ \hline 1 & 3 & 4 \end{array}$$

Estimated difference

$$\begin{array}{r} 2 & 6 & 0 \\ - & 1 & 2 & 0 \\ \hline 1 & 4 & 0 \end{array}$$

nearest 10
nearest 10

(c) Actual difference

$$\begin{array}{r} 1 & 8 & 9 \\ - & 2 & 1 \\ \hline 1 & 6 & 8 \end{array}$$

Estimated difference

$$\begin{array}{r} 1 & 9 & 0 \\ - & 2 & 0 \\ \hline 1 & 7 & 0 \end{array}$$

nearest 10
nearest 10

3. Estimate the sum of 725 and 836 by rounding off to the nearest hundreds.

solution →

$$\begin{array}{r} 7 & 0 & 0 \\ + & 8 & 0 & 0 \\ \hline 15 & 0 & 0 \end{array}$$

nearest hundreds
nearest hundreds

Mental math zone

1. (a) $2645 - 0 = 2645$ (b) $3346 - 1 = 3345$ (c) $5325 - 1 = 5324$
 (d) $6313 - 0 = 6313$ (e) $74325 - 74325 = 0$ (f) $0 - 3423 = 0$

2. (a) $43475 - 20,000 = 23475$ (We subtract 2 from ten thousand place)
 (b) $36439 - 10,000 = 26,439$ (We subtract 2 from ten thousand place)
 (c) $52816 - 20,000 = 32816$ (We subtract 3 from ten thousand place)
 (d) $64216 - 50,000 = 14216$ (We subtract 5 from ten thousand place)

3. (a) $64 - 31 = 33$ (b) $569 - 369 = 200$
 (c) $67432 - 4111 = 63321$ (d) $59842 - 32412 = 27430$

4. (a) 6 tens + 6 ones = 5 tens + 16 ones (b) 7 hundreds + 7 tens = 6 hundreds + 17 tens (c) 9 hundreds + 4 tens = 8 hundreds + 14 tens
 (d) 4 thousand + 3 hundreds = 3 thousands + 13 hundreds. 5. (a) 2899 (b) 649 (c) 13,567 (d) 101

Multiple Choice Questions MCQs

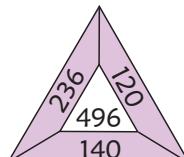
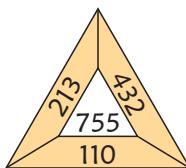
1. $70,000 - 1 = 69999$ 2. 1 lakh – 100 thousand = 0 3. $1,00,000 - 30,303 = 69,697$

Activity Wizard

1.

(a) 6	0	(b) 5	4	(c) 8	(d) 1
(e) 3	3	2	6	(f) 2	2
8		0	4	3	
(g) 4	2	2	0	6	4
(h) 8	0	5	8	5	
(i) 1	0	0	0	0	0

2. (a)



Practice Exercise 5.1

1. (a) $225 \times 1 = 225$ (b) $463 \times 0 = 0$ (c) $105 \times 450 = 105 \times 450$
 (d) $111 \times 1000 = 1000 \times 111$

2. (a)

2	3	2
× 3		
6	9	6

(b)

1		
2	3	1
× 4		
9	2	4

(c)

2	1	4
× 2		
4	2	8

(d)

4	4	2
× 2		
8	8	4

(e)

1	1	2
× 3		
3	3	6

(f)

1	1	
2	3	3
× 5		
11	6	5

(g)

2	1	2
× 3		
6	3	6

(h)

1	1	
6	5	5
× 2		
13	1	0

Practice Exercise 5.2

1. (a) 16×5
 $= 5 \times (10 + 6)$ (write 16 in the expanded notation)
 $= 5 \times 10 + 5 \times 6$ (multiply each term separately by 5)
 $= 50 + 30$ (Add)
 $= 80$
- (b) 5×49
 $\circlearrowleft 5 \times (40 + 9)$ (write 49 in the expanded notation)
 $5 \times 40 + 5 \times 9$ (multiply each term separately by 5)
 $200 + 45$ (Add)
 245
- (c) 28×8
 $\circlearrowleft = (20 + 8) \times 8$ (write 28 in the expanded notation)
 $= 20 \times 8 + 8 \times 8$ (multiply each term separately by 8)
 $= 160 + 64$ (Add)
 $= 224$
- (d) 27×7
 $\circlearrowleft = (20 + 7) \times 7$ (write 27 in the expanded notation)
 $= 20 \times 7 + 7 \times 7$ (multiply each term separately by 4)
 $= 140 + 49$ (Add)
 $= 189$
- (e) 135×4
 $\circlearrowleft = (100 + 35) \times 4$ (write 135 in the expanded notation)

$$= 100 \times 4 + 35 \times 4 \text{ (multiply each term separately by 4)}$$

$$= 400 + 140 \text{ (Add)}$$

$$= 540$$

(f) 165×3

$$= (100 + 60 + 5) \times 3 \text{ (write 165 in the expanded notation)}$$

$$= 100 \times 3 + 60 \times 3 + 5 \times 3 \text{ (multiply each term separately by 3)}$$

$$= 300 + 180 + 15 \text{ (Add)}$$

$$= 495$$

(g) 315×9

$$= (300 + 10 + 5) \times 9 \text{ (write 315 in the expanded notation)}$$

$$= 300 \times 9 + 10 \times 9 + 5 \times 9 \text{ (multiply each term separately by 9)}$$

$$= 2700 + 90 + 45 \text{ (Add)}$$

$$= 2835$$

(h) 625×6

$$= (600 + 20 + 5) \times 6 \text{ (write 625 in the expanded notation)}$$

$$= 600 \times 6 + 20 \times 6 + 5 \times 6 \text{ (multiply each term separately by 6)}$$

$$= 3600 + 120 + 30 \text{ (Add)}$$

$$= 3750$$

(i) 1235×6

$$= (1000 + 200 + 30 + 5) \times 6 \text{ (write 1235 in the expanded notation)}$$

$$= 1000 \times 6 + 200 \times 6 + 30 \times 6 + 5 \times 6 \text{ (multiply each term separately by 6)}$$

$$= 6000 + 1200 + 180 + 30 \text{ (Add)}$$

$$= 7410$$

(j) 5705×4

$$= (5000 + 700 + 0 + 5) \times 4 \text{ (write 5705 in the expanded notation)}$$

$$= 20000 + 2800 + 0 + 20 \text{ (multiply each term separately by 4)}$$

$$= 22820 \text{ (Add)}$$

(k) 45065×5

$$= (40000 + 5000 + 0 + 60 + 5) \times 5 \text{ (write 45065 in the expanded notation)}$$

$$= 200000 + 25000 + 0 + 300 + 25 \text{ (multiply each term separately)}$$

by 5)

$$= 225325 \text{ (Add)}$$

$$(l) 18562 \times 3$$

$$= (10000 + 8000 + 500 + 60 + 2) \times 3 \text{ (write 18562 in the expanded notation)}$$

$$= 30000 + 24000 + 1500 + 180 + 6 \text{ (multiply each term separately by 3)}$$

$$= 541686 \text{ (Add)}$$

Practice Exercise 5.3

1. NOTE - While multiplying a number by 10,100 or 1000 we just put one, two or three zeroes after the number.

$$(a) 350 \quad (b) 34200 \quad (c) 42170$$

$$(d) 6800 \quad (e) 15500 \quad (f) 628000 \quad (g) 60000 \quad (h) 20300 \quad (i) 135000$$

2. (a)

$ \begin{array}{r} \boxed{1} \\ 4 \quad 5 \\ \times \quad 2 \quad 0 \\ \hline 0 \quad 0 \\ + \quad 9 \quad 0 \quad \times \\ \hline 9 \quad 0 \quad 0 \end{array} $
--

(b)

$ \begin{array}{r} \boxed{2} \quad \boxed{2} \\ 4 \quad 4 \quad 5 \\ \times \quad 5 \quad 0 \\ \hline 0 \quad 0 \quad 0 \\ + \quad 2 \quad 2 \quad 2 \quad 5 \quad \times \\ \hline 2 \quad 2 \quad 2 \quad 5 \quad 0 \end{array} $
--

(c)

$ \begin{array}{r} 4 \quad 2 \quad 4 \quad 5 \\ \times \quad 1 \quad 0 \\ \hline 0 \quad 0 \quad 0 \quad 0 \\ + \quad 4 \quad 2 \quad 4 \quad 5 \quad \times \\ \hline 4 \quad 2 \quad 4 \quad 5 \quad 0 \end{array} $
--

(d)

$ \begin{array}{r} \boxed{1} \quad \boxed{2} \\ 2 \quad 2 \quad 5 \\ \times \quad 5 \quad 0 \quad 0 \\ \hline 0 \quad 0 \quad 0 \\ + \quad 1 \quad 1 \quad 2 \quad 5 \quad \times \quad \times \\ \hline 1 \quad 1 \quad 2 \quad 5 \quad 0 \quad 0 \end{array} $

(e)

$ \begin{array}{r} \boxed{1} \\ 5 \quad 8 \\ \times \quad 2 \quad 0 \quad 0 \\ \hline 0 \quad 0 \\ 0 \quad 0 \quad \times \\ + \quad 1 \quad 1 \quad 6 \quad \times \quad \times \\ \hline 1 \quad 1 \quad 6 \quad 0 \quad 0 \end{array} $
--

(f)

$ \begin{array}{r} \boxed{1} \quad \boxed{2} \\ 2 \quad 3 \quad 5 \\ \times \quad 5 \quad 0 \quad 0 \\ \hline 0 \quad 0 \quad 0 \\ 0 \quad 0 \quad 0 \quad \times \\ + \quad 1 \quad 1 \quad 7 \quad 5 \quad \times \quad \times \\ \hline 1 \quad 1 \quad 7 \quad 5 \quad 0 \quad 0 \end{array} $
--

(g)

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Practice Exercise 5.4

1. (a)

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1 6 2 0																		
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(e)

<table border="1"> <tr><td>1</td><td>1</td><td>2</td></tr> <tr><td>1</td><td>2 2</td><td>4</td></tr> <tr><td>x</td><td>2 5</td><td></td></tr> <tr><td colspan="2"><hr/></td></tr> <tr><td colspan="2">6 1 2 0</td></tr> <tr><td>+ 2 4 4 8</td><td>x</td></tr> <tr><td colspan="2"><hr/></td></tr> <tr><td colspan="2">3 0 6 0 0</td></tr> </table>	1	1	2	1	2 2	4	x	2 5		<hr/>		6 1 2 0		+ 2 4 4 8	x	<hr/>		3 0 6 0 0	
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(f)

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(g)

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

(i)

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

(k)

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

2. (a)

$\begin{array}{r} \boxed{3} \quad \boxed{4} \\ \boxed{4} \quad \boxed{4} \\ \hline 1 & 6 & 8 \\ \times & 5 & 6 \\ \hline 1 & 0 & 0 & 8 \\ + & 8 & 4 & 0 & \times \\ \hline 9 & 4 & 0 & 8 \end{array}$	$\begin{array}{r} \boxed{1} \quad \boxed{1} \\ \boxed{1} \quad \boxed{2} \\ \hline 4 & 5 & 7 \\ \times & 2 & 3 \\ \hline 1 & 3 & 7 & 1 \\ + & 9 & 1 & 4 & \times \\ \hline 1 & 0 & 5 & 1 & 1 \end{array}$
---	---

(b)

(c)

$\begin{array}{r} \boxed{1} \quad \boxed{3} \\ 6 & 2 & 4 \\ \times & 1 & 8 \\ \hline 4 & 9 & 9 & 2 \\ + & 6 & 2 & 4 & \times \\ \hline 1 & 1 & 2 & 3 & 2 \end{array}$	$\begin{array}{r} \boxed{1} \\ \boxed{3} \\ \hline 4 & 1 & 5 \\ \times & 2 & 6 \\ \hline 2 & 4 & 9 & 0 \\ + & 8 & 3 & 0 & \times \\ \hline 1 & 0 & 7 & 9 & 0 \end{array}$
---	---

(d)

(e)

3	2	4		
1	4	3	6	
× 2 8				
1	1	4	8	8
+ 2	8	7	2	×
4	0	2	0	8

(f)

2	3	4			
2	3	4			
3	3	4	5		
× 8 8					
2	6	7	6	0	
+ 2	6	7	6	0	
2	9	4	3	6	0

(g)

1	1			
3	2	1		
1	5	4	2	
× 3 6				
9	2	5	2	
+ 4	6	2	6	×
5	5	5	1	2

(h)

1	1	1			
8	8	5			
4	8	9	6		
× 2 9					
4	4	0	6	4	
+ 9	7	9	2	×	
1	4	1	9	8	4

Practice Exercise 5.5

.....

1. (a)

1	1			
2	3	6		
× 1 3 2				
4	7	2		
7	0	8	×	
+ 2	3	6	×	×
3	1	1	5	2

(b)

1	2	3		
× 1 4 2				
2	4	6		
4	9	2	×	
+ 1	2	3	×	×
1	7	4	6	6

(c)

3	4			
2	3			
1	4	6		
× 1 7 5				
7	3	0		
1	0	2	2	×
+ 1	4	6	×	×
2	5	5	5	0

(d)

1				
1				
2	1			
1	5	3		
× 2 2 4				
6	1	2		
3	0	6	×	
+ 3	0	6	×	×
3	4	2	7	2

(e)

		<table border="1"><tr><td>1</td><td>2</td><td>0</td></tr><tr><td>x</td><td>1</td><td>2</td><td>5</td></tr><tr><td colspan="4">-----</td></tr><tr><td>6</td><td>0</td><td>0</td><td></td></tr><tr><td>2</td><td>4</td><td>0</td><td>x</td></tr><tr><td>+ 1</td><td>2</td><td>0</td><td>x x</td></tr><tr><td colspan="4">-----</td></tr><tr><td>1</td><td>5</td><td>0</td><td>0 0</td></tr></table>	1	2	0	x	1	2	5	-----				6	0	0		2	4	0	x	+ 1	2	0	x x	-----				1	5	0	0 0	
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x	1	2	5																															

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2	4	0	x																															
+ 1	2	0	x x																															

1	5	0	0 0																															

(f)

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1	7	4	2	4	x																																								
+ 1	9	3	6	x x																																									

3	8	3	3	2	8																																								

(g)

		<table border="1"><tr><td>1</td></tr><tr><td>1</td></tr><tr><td>3</td><td>5</td></tr><tr><td>3</td><td>4</td><td>8</td></tr><tr><td>x</td><td>2</td><td>2</td><td>7</td></tr><tr><td colspan="4">-----</td></tr><tr><td>2</td><td>4</td><td>3</td><td>6</td></tr><tr><td>6</td><td>9</td><td>6</td><td>x</td></tr><tr><td>+ 6</td><td>9</td><td>6</td><td>x x</td></tr><tr><td colspan="4">-----</td></tr><tr><td>7</td><td>8</td><td>9</td><td>9</td><td>6</td></tr></table>	1	1	3	5	3	4	8	x	2	2	7	-----				2	4	3	6	6	9	6	x	+ 6	9	6	x x	-----				7	8	9	9	6	
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x	2	2	7																																				

2	4	3	6																																				
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+ 6	9	6	x x																																				

7	8	9	9	6																																			

(h)

		<table border="1"><tr><td>1</td><td>1</td><td>2</td></tr><tr><td>1</td></tr><tr><td>1</td><td>2</td><td>2</td><td>4</td></tr><tr><td>x</td><td>2</td><td>7</td><td>4</td></tr><tr><td colspan="4">-----</td></tr><tr><td>4</td><td>8</td><td>9</td><td>6</td></tr><tr><td>8</td><td>5</td><td>6</td><td>8</td><td>x</td></tr><tr><td>+ 2</td><td>4</td><td>4</td><td>8</td><td>x x</td></tr><tr><td colspan="5">-----</td></tr><tr><td>3</td><td>3</td><td>5</td><td>3</td><td>7</td><td>6</td></tr></table>	1	1	2	1	1	2	2	4	x	2	7	4	-----				4	8	9	6	8	5	6	8	x	+ 2	4	4	8	x x	-----					3	3	5	3	7	6	
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(i)

		<table border="1"><tr><td>1</td><td>1</td><td>4</td></tr><tr><td>2</td></tr><tr><td>1</td><td>2</td><td>1</td><td>7</td></tr><tr><td>x</td><td>1</td><td>7</td><td>3</td></tr><tr><td colspan="4">-----</td></tr><tr><td>3</td><td>6</td><td>5</td><td>1</td></tr><tr><td>8</td><td>5</td><td>1</td><td>9</td><td>x</td></tr><tr><td>+ 1</td><td>2</td><td>1</td><td>7</td><td>x x</td></tr><tr><td colspan="5">-----</td></tr><tr><td>2</td><td>1</td><td>0</td><td>5</td><td>4</td><td>1</td></tr></table>	1	1	4	2	1	2	1	7	x	1	7	3	-----				3	6	5	1	8	5	1	9	x	+ 1	2	1	7	x x	-----					2	1	0	5	4	1	
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x	1	7	3																																									

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8	5	1	9	x																																								
+ 1	2	1	7	x x																																								

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(j)

		<table border="1"><tr><td>6</td><td>2</td><td>3</td></tr><tr><td>1</td></tr><tr><td>2</td><td>7</td><td>2</td><td>4</td></tr><tr><td>x</td><td>1</td><td>9</td><td>2</td></tr><tr><td colspan="4">-----</td></tr><tr><td>5</td><td>4</td><td>4</td><td>8</td></tr><tr><td>2</td><td>4</td><td>5</td><td>1</td><td>6</td><td>x</td></tr><tr><td>+ 2</td><td>7</td><td>2</td><td>4</td><td>x x</td></tr><tr><td colspan="6">-----</td></tr><tr><td>5</td><td>2</td><td>3</td><td>0</td><td>0</td><td>8</td></tr></table>	6	2	3	1	2	7	2	4	x	1	9	2	-----				5	4	4	8	2	4	5	1	6	x	+ 2	7	2	4	x x	-----						5	2	3	0	0	8	
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+ 2	7	2	4	x x																																										

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(k)

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+ 6	3	8	x x																																		

6	5	3	9	5																																	

(l)

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<p>2. (a)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{1} \\ \boxed{1} \\ \hline 2 & 4 & 7 \\ \times & 1 & 2 & 2 \\ \hline 4 & 9 & 4 \\ 4 & 9 & 4 & \times \\ + & 2 & 4 & 7 & \times & \times \\ \hline 3 & 0 & 1 & 3 & 4 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{1} \\ \boxed{1} \\ \hline 2 & 4 & 7 \\ \times & 1 & 2 & 2 \\ \hline 4 & 9 & 4 \\ 4 & 9 & 4 & \times \\ + & 2 & 4 & 7 & \times & \times \\ \hline 3 & 0 & 1 & 3 & 4 \end{array} $	<p>(b)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{5} \quad \boxed{1} \\ \boxed{4} \quad \boxed{1} \\ \hline 3 & 9 & 2 \\ \times & 1 & 6 & 5 \\ \hline 1 & 9 & 6 & 0 \\ 2 & 3 & 5 & 2 & \times \\ + & 3 & 9 & 2 & \times & \times \\ \hline 6 & 4 & 6 & 8 & 0 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{5} \quad \boxed{1} \\ \boxed{4} \quad \boxed{1} \\ \hline 3 & 9 & 2 \\ \times & 1 & 6 & 5 \\ \hline 1 & 9 & 6 & 0 \\ 2 & 3 & 5 & 2 & \times \\ + & 3 & 9 & 2 & \times & \times \\ \hline 6 & 4 & 6 & 8 & 0 \end{array} $
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$ \begin{array}{r} \boxed{5} \quad \boxed{1} \\ \boxed{4} \quad \boxed{1} \\ \hline 3 & 9 & 2 \\ \times & 1 & 6 & 5 \\ \hline 1 & 9 & 6 & 0 \\ 2 & 3 & 5 & 2 & \times \\ + & 3 & 9 & 2 & \times & \times \\ \hline 6 & 4 & 6 & 8 & 0 \end{array} $			
<p>(c)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{1} \quad \boxed{1} \\ \boxed{3} \quad \boxed{2} \\ \hline 2 & 7 & 5 \\ \times & 1 & 2 & 5 \\ \hline 1 & 3 & 7 & 5 \\ 5 & 5 & 0 & \times \\ + & 2 & 7 & 5 & \times & \times \\ \hline 3 & 4 & 3 & 7 & 5 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{1} \quad \boxed{1} \\ \boxed{3} \quad \boxed{2} \\ \hline 2 & 7 & 5 \\ \times & 1 & 2 & 5 \\ \hline 1 & 3 & 7 & 5 \\ 5 & 5 & 0 & \times \\ + & 2 & 7 & 5 & \times & \times \\ \hline 3 & 4 & 3 & 7 & 5 \end{array} $	<p>(d)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{3} \quad \boxed{3} \\ \boxed{7} \quad \boxed{6} \\ \hline 3 & 9 & 8 \\ \times & 1 & 4 & 8 \\ \hline 3 & 1 & 8 & 4 \\ 1 & 5 & 9 & 2 & \times \\ + & 3 & 9 & 8 & \times & \times \\ \hline 5 & 8 & 9 & 0 & 4 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{3} \quad \boxed{3} \\ \boxed{7} \quad \boxed{6} \\ \hline 3 & 9 & 8 \\ \times & 1 & 4 & 8 \\ \hline 3 & 1 & 8 & 4 \\ 1 & 5 & 9 & 2 & \times \\ + & 3 & 9 & 8 & \times & \times \\ \hline 5 & 8 & 9 & 0 & 4 \end{array} $
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<p>(e)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{3} \quad \boxed{4} \quad \boxed{4} \\ \boxed{2} \quad \boxed{3} \quad \boxed{3} \\ \hline 3 & 4 & 6 & 7 \\ \times & 1 & 7 & 5 \\ \hline 1 & 7 & 3 & 3 & 5 \\ 2 & 4 & 2 & 6 & 9 & \times \\ + & 3 & 4 & 6 & 7 & \times & \times \\ \hline 6 & 0 & 6 & 7 & 2 & 5 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{3} \quad \boxed{4} \quad \boxed{4} \\ \boxed{2} \quad \boxed{3} \quad \boxed{3} \\ \hline 3 & 4 & 6 & 7 \\ \times & 1 & 7 & 5 \\ \hline 1 & 7 & 3 & 3 & 5 \\ 2 & 4 & 2 & 6 & 9 & \times \\ + & 3 & 4 & 6 & 7 & \times & \times \\ \hline 6 & 0 & 6 & 7 & 2 & 5 \end{array} $	<p>(f)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{1} \quad \boxed{1} \quad \boxed{1} \\ \boxed{5} \quad \boxed{4} \quad \boxed{4} \\ \boxed{4} \quad \boxed{3} \quad \boxed{4} \\ \hline 1 & 9 & 6 & 8 \\ \times & 2 & 6 & 5 \\ \hline 9 & 8 & 4 & 0 \\ 1 & 1 & 8 & 0 & 8 & \times \\ + & 3 & 9 & 3 & 6 & \times & \times \\ \hline 5 & 2 & 1 & 5 & 2 & 0 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{1} \quad \boxed{1} \quad \boxed{1} \\ \boxed{5} \quad \boxed{4} \quad \boxed{4} \\ \boxed{4} \quad \boxed{3} \quad \boxed{4} \\ \hline 1 & 9 & 6 & 8 \\ \times & 2 & 6 & 5 \\ \hline 9 & 8 & 4 & 0 \\ 1 & 1 & 8 & 0 & 8 & \times \\ + & 3 & 9 & 3 & 6 & \times & \times \\ \hline 5 & 2 & 1 & 5 & 2 & 0 \end{array} $
$ \begin{array}{r} \boxed{3} \quad \boxed{4} \quad \boxed{4} \\ \boxed{2} \quad \boxed{3} \quad \boxed{3} \\ \hline 3 & 4 & 6 & 7 \\ \times & 1 & 7 & 5 \\ \hline 1 & 7 & 3 & 3 & 5 \\ 2 & 4 & 2 & 6 & 9 & \times \\ + & 3 & 4 & 6 & 7 & \times & \times \\ \hline 6 & 0 & 6 & 7 & 2 & 5 \end{array} $			
$ \begin{array}{r} \boxed{1} \quad \boxed{1} \quad \boxed{1} \\ \boxed{5} \quad \boxed{4} \quad \boxed{4} \\ \boxed{4} \quad \boxed{3} \quad \boxed{4} \\ \hline 1 & 9 & 6 & 8 \\ \times & 2 & 6 & 5 \\ \hline 9 & 8 & 4 & 0 \\ 1 & 1 & 8 & 0 & 8 & \times \\ + & 3 & 9 & 3 & 6 & \times & \times \\ \hline 5 & 2 & 1 & 5 & 2 & 0 \end{array} $			
<p>(g)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{2} \quad \boxed{2} \quad \boxed{3} \\ \boxed{2} \quad \boxed{2} \quad \boxed{3} \\ \hline 3 & 4 & 5 & 6 \\ \times & 1 & 5 & 5 \\ \hline 1 & 7 & 2 & 8 & 0 \\ 1 & 7 & 2 & 8 & 0 & \times \\ + & 3 & 4 & 5 & 6 & \times & \times \\ \hline 5 & 3 & 5 & 6 & 8 & 0 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{2} \quad \boxed{2} \quad \boxed{3} \\ \boxed{2} \quad \boxed{2} \quad \boxed{3} \\ \hline 3 & 4 & 5 & 6 \\ \times & 1 & 5 & 5 \\ \hline 1 & 7 & 2 & 8 & 0 \\ 1 & 7 & 2 & 8 & 0 & \times \\ + & 3 & 4 & 5 & 6 & \times & \times \\ \hline 5 & 3 & 5 & 6 & 8 & 0 \end{array} $	<p>(h)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 5px;"> $\begin{array}{r} \boxed{1} \quad \boxed{1} \\ \boxed{2} \quad \boxed{2} \\ \boxed{3} \quad \boxed{3} \\ \hline 1 & 7 & 9 & 2 \\ \times & 2 & 3 & 4 \\ \hline 7 & 1 & 6 & 8 \\ 5 & 3 & 7 & 6 & \times \\ + & 3 & 5 & 8 & 4 & \times & \times \\ \hline 4 & 1 & 9 & 3 & 2 & 8 \end{array}$ </td> </tr> </table>	$ \begin{array}{r} \boxed{1} \quad \boxed{1} \\ \boxed{2} \quad \boxed{2} \\ \boxed{3} \quad \boxed{3} \\ \hline 1 & 7 & 9 & 2 \\ \times & 2 & 3 & 4 \\ \hline 7 & 1 & 6 & 8 \\ 5 & 3 & 7 & 6 & \times \\ + & 3 & 5 & 8 & 4 & \times & \times \\ \hline 4 & 1 & 9 & 3 & 2 & 8 \end{array} $
$ \begin{array}{r} \boxed{2} \quad \boxed{2} \quad \boxed{3} \\ \boxed{2} \quad \boxed{2} \quad \boxed{3} \\ \hline 3 & 4 & 5 & 6 \\ \times & 1 & 5 & 5 \\ \hline 1 & 7 & 2 & 8 & 0 \\ 1 & 7 & 2 & 8 & 0 & \times \\ + & 3 & 4 & 5 & 6 & \times & \times \\ \hline 5 & 3 & 5 & 6 & 8 & 0 \end{array} $			
$ \begin{array}{r} \boxed{1} \quad \boxed{1} \\ \boxed{2} \quad \boxed{2} \\ \boxed{3} \quad \boxed{3} \\ \hline 1 & 7 & 9 & 2 \\ \times & 2 & 3 & 4 \\ \hline 7 & 1 & 6 & 8 \\ 5 & 3 & 7 & 6 & \times \\ + & 3 & 5 & 8 & 4 & \times & \times \\ \hline 4 & 1 & 9 & 3 & 2 & 8 \end{array} $			

Practice Exercise 5.6

- (a) Number of ball pens in a cartoon = 236
 Number of ball pens in 145 cartoons = 236×145
 Number of ball pens in 145 cartoons = 34220
 Hence the number of ball pens in 145 cartoons = 34220

2. Cost of a toy car	= ₹ 483
Cost of 11 toys cars	= ₹ 483 × 11
	= ₹ 5313
So, the cost of 11 toy car	= ₹ 5313
3. A car travels a distance in 1 day	= 342 km
A car travels a distance in 23 days	= 342×23 km
	= 7866 km
So, the car travels a distance in 23 days	= 7866 km
4. One calculator costs	= ₹ 2342
23 calculators cost	= ₹ 2342×23
	= ₹ 53866
So, the cost of 23 calculator	= ₹ 53866
5. The cost of one dress	= ₹ 1364
The cost of 124 dresses	= ₹ 1364×124
	= ₹ 1,69,136
So, the cost of 124 dresses	= ₹ 169136

Practice Exercise 5.7

• • • • • • • •

1. (a) 25×35

25 is rounded off to 30 (nearest tens) and 35 is rounded off to 40 (nearest tens)

So, 25 →

3	0		
×	4	0	
1	2	0	0

35 →

2	5	
×	3	5
8	7	5

Simple product

(b) 145×5

145 is rounded off to 100 (nearest hundreds)

So, 145 →

1	0	0
5		
1	4	5
5	0	0

Simple product

1	4	5
5		
7	2	5

(c) 324×62

324 is rounded off to 300 (nearest hundreds) and 62 is rounded off to 60 (nearest tens)

So, 324 →

3	0	0		
6	0			
1	8	0	0	0

62 →

3	2	4		
6	2			
2	0	0	8	8

Simple product

(d) 279×53

279 is rounded off to 300 (nearest hundreds) and 53 is rounded off to 50 (nearest tens)

So, 279 →

53 →

$$\begin{array}{r} 300 \\ \times 50 \\ \hline 15000 \end{array}$$

Simple product

$$\begin{array}{r} 279 \\ \times 53 \\ \hline 14787 \end{array}$$

(e) 71×76

71 is rounded off to 70 (nearest tens) and 76 is rounded off to 80 (nearest term)

So, 71 →

76 →

$$\begin{array}{r} 70 \\ \times 80 \\ \hline 5600 \end{array}$$

Simple product

$$\begin{array}{r} 71 \\ \times 76 \\ \hline 5396 \end{array}$$

(f) 576×6

576 is rounded off to 600 (nearest hundred)

So, 576 →

6 →

$$\begin{array}{r} 600 \\ \times 6 \\ \hline 3600 \end{array}$$

Simple product

$$\begin{array}{r} 576 \\ \times 6 \\ \hline 3456 \end{array}$$

Mental math zone

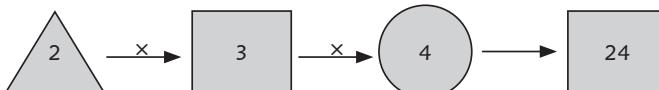
1. (a) $37 \times 40 = 1480$ (b) $246 \times 0 = 0$ (c) $326 \times 100 = 32600$

(d) $22 \times 13 = 13 \times 22$ (e) $90 \times 20 = 1800$ (f) $1600 \times 0 \times 5 = 0$

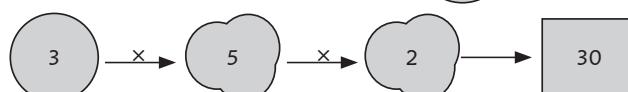
(g) $11,765 \times 0 = 0$ (h) $35 \times 600 = 21000$ (i) $2876 \times 1 = 2876$

(j) $3765 \times 0 = 0$ (k) $1565 \times 1 = 1565$ (l) $30 \times 900 = 27000$

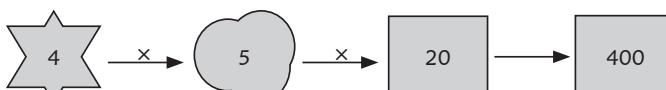
2. (a)



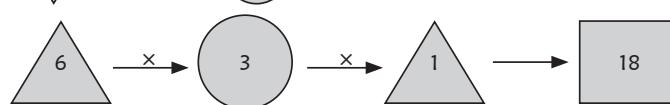
(b)



(c)



(d)



Multiple Choice Questions MCQs

1. $69 \times 900 = 62100$

2. if 1 hour = 3600 seconds, then 1 week = _____ seconds

we know 1 day = 24 hours

so 24×3600 seconds = 86400 seconds

and we know 1 week = 7 days

1 days = 86400 seconds

7 days = 86400×7 seconds

= 60,4800

3. Multiplicand \times multiplier = product

Practice Exercise 6.1

1. (a) $325 \div 1 = 325$ (b) $1325 \div 1325 = 1$ (c) $0 \div 650 = 0$ (d) $625 \div 1 = 625$ (e) $435 \div 435 = 1$ (f) $0 \div 130 = 0$

2. (a) $63 \div 9$ (b) $56 \div 8$ (c) $54 \div 6$ (d) $20 \div 10$

$$\begin{array}{r} 9 \overline{)6\ 3\ (\ 7} \\ \underline{6\ 3} \\ \underline{\times} \\ Q = 7 \end{array}$$

$$\begin{array}{r} 8 \overline{)5\ 6\ (\ 7} \\ \underline{5\ 6} \\ \underline{\times} \\ Q = 7 \end{array}$$

$$\begin{array}{r} 6 \overline{)5\ 4\ (\ 9} \\ \underline{5\ 4} \\ \underline{\times} \\ Q = 9 \end{array}$$

(e) $21 \div 7$ (f) $18 \div 2$ (g) $60 \div 6$ (h) $16 \div 4$

$$\begin{array}{r} 10 \overline{)2\ 0\ (\ 2} \\ \underline{2\ 0} \\ \underline{\times} \\ Q = 2 \end{array}$$

$$\begin{array}{r} 7 \overline{)2\ 1\ (\ 3} \\ \underline{2\ 1} \\ \underline{\times} \\ Q = 3 \end{array}$$

$$\begin{array}{r} 2 \overline{)1\ 8\ (\ 9} \\ \underline{1\ 8} \\ \underline{\times} \\ Q = 9 \end{array}$$

(i) $60 \div 6$ (j) $16 \div 4$

$$\begin{array}{r} 6 \overline{)6\ 0\ (\ 10} \\ \underline{6\ 0} \\ \underline{\times} \\ Q = 10 \end{array}$$

$$\begin{array}{r} 4 \overline{)1\ 6\ (\ 4} \\ \underline{1\ 6} \\ \underline{\times} \\ Q = 4 \end{array}$$

3. (a) $328 \div 5$

$Q = 65$, $R = 3$, dividend = 328, divisor = 5

$$\begin{array}{r} 5 \overline{)3\ 2\ 8\ (\ 65} \\ \underline{-3\ 0} \\ \underline{\quad 2\ 8} \\ \underline{-2\ 5} \\ \underline{\quad 3} \end{array}$$

Check- dividend = divisor \times quotient + remainder
 $328 = 5 \times 65 + 2$
 $= 325 + 3$
 $= 328$

(b) $617 \div 5$

$Q = 65$, $R = 2$, dividend = 617, divisor = 5

$$\begin{array}{r} 5) \overline{6 \ 1 \ 7} \\ \underline{-5} \quad \downarrow \\ 1 \ 1 \\ \underline{-1} \quad \downarrow \\ 1 \ 7 \\ \underline{-1} \quad 5 \\ \hline 2 \end{array} \quad (123)$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned} 617 &= 5 \times 123 + 2 \\ &= 615 + 2 \\ &= 617 \end{aligned}$$

$$(c) 299 \div 6$$

$$Q = 49, R = 5, \text{ divisor} = 6, \text{ dividend} = 299$$

$$\begin{array}{r} 6) \overline{2 \ 9 \ 9} \\ \underline{-2} \quad 4 \quad \downarrow \\ 5 \ 9 \\ \underline{-5} \quad 4 \\ \hline 5 \end{array} \quad (49)$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned} 299 &= 6 \times 49 + 5 \\ &= 294 + 5 \\ &= 299 \end{aligned}$$

$$(d) 565 \div 9$$

$$Q = 62, R = 7, \text{ divisor} = 9, \text{ dividend} = 565$$

$$\begin{array}{r} 9) \overline{5 \ 6 \ 5} \\ \underline{-5} \quad 4 \quad \downarrow \\ 2 \ 5 \\ \underline{-1} \quad 8 \\ \hline 7 \end{array} \quad (62)$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned} 565 &= 9 \times 62 + 7 \\ &= 558 + 7 \\ &= 565 \end{aligned}$$

$$4. (a) 386 \div 10, Q = 38, R = 6 \quad (b) 595 \div 100, Q = 5, R = 95$$

$$(c) 4856 \div 100, Q = 48, R = 56 \quad (d) 2248 \div 10, Q = 224, R = 8$$

Practice Exercise 6.2



Note : Any number when divided by 10, the digit at ones place is the remainder and the remaining digits are quotient.

$$1. (a) Q = 8, R = 6 \quad (b) Q = 32, R = 5 \quad (c) Q = 67, R = 8 \quad (d) Q = 367, R = 8 \quad (e) Q = 252, R = 6 \quad (f) Q = 872, R = 7$$

Note : Any number when divided by 100, the digits at ones place and tens place is the remainder and the remaining digits are quotient.

$$2. (a) Q = 3, R = 84 \quad (b) Q = 2, R = 65 \quad (c) Q = 31, R = 54 \quad (d) Q = 42, R = 85 \quad (e) Q = 57, R = 56 \quad (f) Q = 64, R = 63$$

Note : Any number when divided by 1,000 the digit at ones, tens and hundreds place are the remainder and remaining digits are quotient.

$$3. (a) Q = 7, R = 752 \quad (b) Q = 3, R = 756 \quad (c) Q = 5, R = 723 \quad (d) Q = 55, R = 476 \quad (e) Q = 48, R = 765 \quad (f) Q = 75, R = 171$$

Practice Exercise 6.3



$$1. (a) 3787 \div 9$$

$$Q = 42, R = 7, \text{ divisor} = 9, \text{ dividend} = 3787$$

$$\begin{array}{r} 9) \overline{) 3 \ 7 \ 8 \ 7} \\ - 3 \ 6 \\ \hline 1 \ 8 \\ - 1 \ 8 \\ \hline 7 \\ - 0 \\ \hline 7 \end{array} \quad (420)$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned} 3787 &= 9 \times 420 + 7 \\ &= 3780 + 7 \\ &= 3787 \end{aligned}$$

(b) $5392 \div 6$

$$\begin{array}{r} 6) \overline{) 5 \ 3 \ 9 \ 2} \\ - 4 \ 8 \\ \hline 5 \ 9 \\ - 5 \ 4 \\ \hline 5 \ 2 \\ - 4 \ 8 \\ \hline 4 \end{array} \quad (898)$$

$Q = 898$, $R = 4$, divisor = 6,
dividend = 5392

Check- dividend = divisor × quotient + remainder
 $5392 = 6 \times 898 + 4$
 $= 5388 + 4$
 $= 5392$

(c) $3698 \div 4$

$$\begin{array}{r} 4) \overline{) 3 \ 6 \ 9 \ 8} \\ - 3 \ 6 \\ \hline 9 \\ - 8 \\ \hline 1 \ 8 \\ - 1 \ 6 \\ \hline 2 \end{array} \quad (924)$$

$Q = 924$, $R = 2$, divisor = 4,
dividend = 3698

Check- dividend = divisor × quotient + remainder
 $3698 = 4 \times 924 + 2$
 $= 3696 + 2$
 $= 3698$

(d) $7385 \div 8$

$Q = 923$, $R = 1$, divisor = 8, dividend = 7385

$$\begin{array}{r} 8) \overline{) 7 \ 3 \ 8 \ 5} \\ - 7 \ 2 \\ \hline 1 \ 8 \\ - 1 \ 6 \\ \hline 2 \ 5 \\ - 2 \ 4 \\ \hline 1 \end{array} \quad (924)$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned} 7385 &= 8 \times 923 + 1 \\ &= 7384 + 1 \\ &= 7385 \end{aligned}$$

(e) $5397 \div 7$

$Q = 771$, $R = 0$, divisor = 7, dividend = 5397

$$\begin{array}{r} 7) \overline{) 5 \ 3 \ 9 \ 7} \\ - 4 \ 9 \\ \hline 4 \ 9 \\ - 4 \ 9 \\ \hline 7 \\ - 7 \\ \hline \times \end{array} \quad (771)$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned} 5397 &= 7 \times 771 + 0 \\ &= 5497 + 0 \\ &= 5497 \end{aligned}$$

$$(f) 65009 \div 6$$

$Q = 10834$, $R = 1$, divisor = 6, dividend = 65009

$$\begin{array}{r} 65009 \\ \hline 6) \quad 6 \downarrow \quad 0 \downarrow \quad 0 \downarrow \quad 9 \quad (10834 \\ - 6 \quad \quad \quad \quad \quad | \\ \hline \quad 5 \quad 0 \quad | \\ - 4 \quad \quad \quad \quad \quad | \\ \hline \quad 2 \quad 0 \quad | \\ - 1 \quad 8 \quad | \\ \hline \quad 2 \quad 9 \quad | \\ - 2 \quad 4 \quad | \\ \hline \quad \quad \quad 5 \end{array}$$

Check- dividend = divisor \times quotient + remainder

$$\begin{aligned} 65009 &= 6 \times 10834 + 5 \\ &= 65004 + 5 \\ &= 65009 \end{aligned}$$

$$(g) 49420 \div 8$$

$Q = 6177$, $R = 4$, divisor = 8, dividend = 49420

$$\begin{array}{r} 49420 \\ \hline 8) \quad 4 \downarrow \quad 9 \downarrow \quad 4 \downarrow \quad 2 \downarrow \quad 0 \quad (6177 \\ - 4 \quad \quad \quad \quad \quad \quad | \\ \hline \quad 1 \quad 4 \quad | \\ - 8 \quad \quad \quad \quad \quad | \\ \hline \quad 6 \quad 2 \quad | \\ - 5 \quad 6 \quad | \\ \hline \quad 6 \quad 0 \quad | \\ - 5 \quad 6 \quad | \\ \hline \quad \quad \quad 4 \end{array}$$

Check- dividend = divisor \times quotient + remainder

$$\begin{aligned} 49420 &= 8 \times 6177 + 4 \\ &= 49416 + 4 \\ &= 49420 \end{aligned}$$

$$(h) 61679 \div 4$$

$Q = 15419$, $R = 3$, divisor = 4, dividend = 61679

$$\begin{array}{r} 61679 \\ \hline 4) \quad 6 \downarrow \quad 1 \downarrow \quad 6 \downarrow \quad 7 \downarrow \quad 9 \quad (15419 \\ - 4 \quad \quad \quad \quad \quad \quad | \\ \hline \quad 2 \quad 1 \quad | \\ - 2 \quad 0 \quad | \\ \hline \quad 1 \quad 6 \quad | \\ - 1 \quad 6 \quad | \\ \hline \quad \quad \quad 7 \quad | \\ - 4 \quad \quad \quad | \\ \hline \quad 3 \quad 9 \quad | \\ - 3 \quad 6 \quad | \\ \hline \quad \quad \quad 3 \end{array}$$

Check- dividend = divisor \times quotient + remainder

$$\begin{aligned} 61679 &= 4 \times 15419 + 3 \\ &= 61676 + 3 \\ &= 61679 \end{aligned}$$

$$(i) 448 \div 12$$

$Q = 37$, $R = 4$, divisor = 12, dividend = 448

$$\begin{array}{r} 448 \\ \hline 12) \quad 4 \downarrow \quad 4 \downarrow \quad 8 \downarrow \quad (37 \\ - 3 \quad 6 \quad | \\ \hline \quad 8 \quad 8 \quad | \\ - 8 \quad 4 \quad | \\ \hline \quad \quad \quad 4 \end{array}$$

Check- dividend = divisor \times quotient + remainder

$$\begin{aligned} 448 &= 12 \times 37 + 4 \\ &= 444 + 4 \\ &= 448 \end{aligned}$$

$$(j) 705 \div 17$$

$Q = 41$, $R = 8$, divisor = 17, dividend = 705

$$\begin{array}{r} 7 & 0 & 5 \\ \hline 17) & 3 & 5 \\ -6 & 8 \\ \hline 2 & 5 \\ -1 & 7 \\ \hline 8 \end{array}$$

Check- dividend = divisor ×

quotient + remainder

$$\begin{aligned} 705 &= 17 \times 41 + 8 \\ &= 697 + 8 \\ &= 705 \end{aligned}$$

(k) $5287 \div 21$

$$Q = 251, R = 16, \text{ divisor} = 21, \text{ dividend} = 5287$$

$$\begin{array}{r} 5 & 2 & 8 & 7 \\ \hline 21) & 251 \\ -4 & 2 \\ \hline 1 & 0 & 8 \\ -1 & 0 & 5 \\ \hline 3 & 7 \\ -2 & 1 \\ \hline 1 & 6 \end{array}$$

Check- dividend = divisor ×
quotient + remainder

$$\begin{aligned} 5287 &= 21 \times 251 + 16 \\ &= 5271 + 16 \\ &= 5287 \end{aligned}$$

(l) $3289 \div 34$

$$Q = 96, R = 25, \text{ divisor} = 34, \text{ dividend} = 3289$$

$$\begin{array}{r} 3 & 2 & 8 & 9 \\ \hline 34) & 96 \\ -3 & 0 & 6 \\ \hline 2 & 2 & 9 \\ -2 & 0 & 4 \\ \hline 2 & 5 \end{array}$$

Check- dividend = divisor ×
quotient + remainder

$$\begin{aligned} 3289 &= 34 \times 96 + 25 \\ &= 3264 + 25 \\ &= 3289 \end{aligned}$$

(m) $3888 \div 36$

$$Q = 108, R = 0, \text{ divisor} = 36, \text{ dividend} = 3888$$

$$\begin{array}{r} 3 & 8 & 8 & 8 \\ \hline 36) & 108 \\ -3 & 6 \\ \hline 2 & 8 & 8 \\ -2 & 8 & 8 \\ \hline \times \end{array}$$

Check- dividend = divisor ×
quotient + remainder

$$\begin{aligned} 3888 &= 36 \times 108 + 0 \\ &= 3856 + 0 \\ &= 3888 \end{aligned}$$

(n) $8896 \div 42$

$$Q = 211, R = 34, \text{ dividend} = 8896, \text{ divisor} = 42$$

$$\begin{array}{r} 8 & 8 & 9 & 6 \\ \hline 42) & 211 \\ -8 & 4 \\ \hline 4 & 9 \\ -4 & 2 \\ \hline 7 & 6 \\ -4 & 2 \\ \hline 3 & 4 \end{array}$$

Check- dividend = divisor ×
quotient + remainder

$$\begin{aligned} 8896 &= 42 \times 211 + 34 \\ &= 8862 + 34 \\ &= 8896 \end{aligned}$$

(o) $66007 \div 19$

$$Q = 3474, R = 1, \text{ divisor} = 19, \text{ dividend} = 66007$$

$$\begin{array}{r}
 19) \overline{6\ 6\ 0\ 0\ 7} \quad (3474 \\
 -5\ 7 \\
 \hline
 9\ 0 \\
 -7\ 6 \\
 \hline
 1\ 4\ 0 \\
 -1\ 3\ 3 \\
 \hline
 7\ 7 \\
 -7\ 6 \\
 \hline
 1
 \end{array}$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned}
 66007 &= 19 \times 3474 + 1 \\
 &= 66006 + 1 \\
 &= 66007
 \end{aligned}$$

(p) $40434 \div 57$

$$Q = 709, R = 21, \text{ divisor} = 57, \text{ dividend} = 40434$$

$$\begin{array}{r}
 57) \overline{4\ 0\ 4\ 3\ 4} \quad (709 \\
 -3\ 9 \\
 \hline
 9\ 4 \\
 -5\ 1 \\
 \hline
 2\ 1
 \end{array}$$

Check- dividend = divisor × quotient + remainder

$$\begin{aligned}
 40434 &= 57 \times 709 + 21 \\
 &= 40413 + 21 \\
 &= 40434
 \end{aligned}$$

Practice Exercise 6.4

1. 8 tricycles cost

$$= ₹ 6792$$

1 tricycle costs

$$= ₹ 6792 \div 8$$

$$= ₹ 849$$

So, one tricycle costs = ₹ 849

2. 9366 roses are packed in 7 crates = $9366 \div 7$

1 crates has rose = 1338

So, 1 crates has rose = 1338

3. The product of two numbers = 1794

one number = 13

and second number = $1794 \div 13$

$$= 138$$

So, the second number = 138

4. 16 Books cost = ₹ 7968

1 Books cost = ₹ 7968 $\div 16$

$$= ₹ 498$$

So, 1 Book cost = ₹ 498

5. Number of children = 252

one van can hold = 18 children

How many vans will be required = $252 \div 18$

$$= 14$$

So, 14 vans are required.

Practice Exercise 6.5

• • • • • • • • • •

1. (a) $33 \div 5$

33 is rounded off to 30 (nearest tens)

$30 \div 5$ gives 6 as quotient

So, the quotient should be nearly 6.

(b) $176 \div 18$

176 is rounded off to 200 (nearest hundred) and 18 is rounded off to 20 (nearest tens)

$200 \div 20$ gives 10 as the quotient

So, the quotient should be nearly 10.

(c) $392 \div 17$

392 is rounded off to 400 (nearest hundred)

17 is rounded off to 20 (nearest tens)

$400 \div 20$ gives 20 as the quotient.

So, the quotient should be nearly 20.

(d) $246 \div 47$

246 is rounded off to 200 (nearest hundred) 47 is rounded off 50 (nearest tens)

$200 \div 50$ gives 4 as the quotient

So, the quotient should be nearly 4.

(e) $56 \div 6$

56 is rounded off to 60 (nearest ten)

$60 \div 6$ gives 10 as the quotient

So, the quotient should be nearly 10.

(f) $439 \div 24$

439 is rounded off to 400 (nearest hundred)

24 is rounded off to 20 (nearest tens)

$400 \div 20$ gives 20 as the quotient

So, the quotient should be nearly 20.

(g) $578 \div 35$

578 is rounded off to 600 (nearest hundred)

35 is rounded off to 40 (nearest ten)

$600 \div 40$ gives 15 as the quotient

So, the quotient should be nearly 15.

(h) $811 \div 52$

811 is rounded off to 800 (nearest hundred)

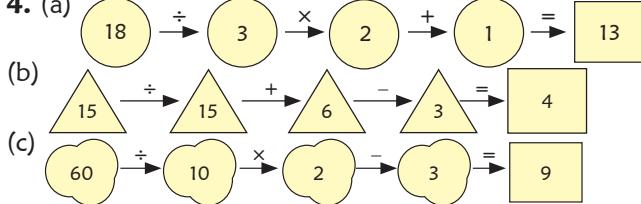
52 is rounded off to 50 (nearest ten)

$800 \div 50$ gives 16 as the quotient

So, the quotient should be nearly 16.

Mental math zone

1. (a) 1 (b) 1 (c) 0 (d) 1234 (e) 60 (f) 250 (g) 16 (h) 1800 (i) 40 (j)
8 2. (a) Q = 3572, R = 5 (b) Q = 865, R = 40 (c) Q = 462, R = 57 (d) Q = 967, R = 00 (e) Q = 59, R = 756 (f) Q = 48, R = 656
3. (a) 17 (b) 72 (c) 105 (d) 390 (e) 2080



Multiple Choice Questions MCQs

1. 64 2. 3 3. 200

Practice Exercise 7.1

1. (a) 2, 4, 6, 8, 10 (b) 3, 6, 9, 12, 15 (c) 5, 10, 15, 20, 25 (d) 9, 18, 27, 36, 45 (e) 12, 24, 36, 48, 60 (f) 15, 30, 45, 60, 75 (g) 18, 36, 54, 72, 90 (h) 21, 42, 63, 84, 105 (i) 24, 48, 72, 96, 120 (j) 36, 72, 108, 144, 180 (k) 45, 90, 135, 180, 225 (l) 50, 100, 150, 200, 250
2. Even numbers = 6, 14, 18, 36, 48 3. Odd numbers = 5, 13, 15, 19, 25, 67, 99 4. (a) Yes (b) No (c) Yes (d) No 5. (a) No (b) Yes (c) Yes (d) Yes 6. 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60 7. 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89 8. 100, 200, 300, 400, 500 9. (a) 40, 48, 56 (b) 100, 120, 140 (c) 125, 150, 175 10. (a) 7 and 4 (b) 9 and 8 (c) 2, 3 and 6.

Practice Exercise 7.2

1. (a) factors (b) factors 2. (a) 2, 2 (b) 1, 5 (c) 2, 3 (d) 2, 4 (e) 2, 6 3. (a) Yes (b) Yes (c) Yes (d) No 4. (a) 5, 7, 8, 15 5. (a) Yes (b) Yes (c) Yes (d) No 6. (a) 1, 17 (b) 1, 2, 3, 6, 9 and 18 (c) 1, 2, 4, 8, 16, 32 (d) 1 and 37 (e) 1, 2, 3, 6, 7, 14, 21, 42

Practice Exercise 7.3

1. (a) 10, 12, 18, 28, 30, 40, 42, 56, 58 (b) 9, 12, 15 (c) 8, 12, 16, 20, 24 (d) 5, 10, 15, 20, 25, 30 2. 15, 25, 35, 45, 55 3. Even 4. (a) A number is divisible by 10 if it ends in 0 (b) A number is divisible by 2 if it is even. (c) A number is divisible by 5 if it ends in 5 or 0 (d) If the total of the digits of a number is divisible by 3 it will be divisible by 3.

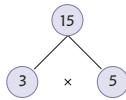
Practice Exercise 7.4

1. (a) 1, 2, 18, 8 (b) 1, 2, 5, 10 (c) 1, 2, 3, 4, 6, 12 (d) 1, 3, 5, 15 (e)

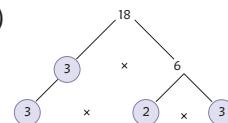
1, 2, 3, 6, 9, 18 **2.** (a) 1, 7 (Two) (b) 1, 11 (Two) (c) 1, 17 (Two) (d) 1, 29 (Two) (e) 1, 13, 26 (Three) **3.** (a) Prime (b) Composite (c) Prime (d) Composite (e) Composite **4.** 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27, 28 **5.** 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47 **6.** 3 and 5; 5 and 7; 11 and 13; 17 and 19; 29 and 31; 41 and 43; 57 and 59

Practice Exercise 7.5

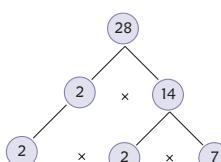
1. (a)



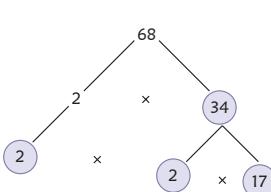
(b)



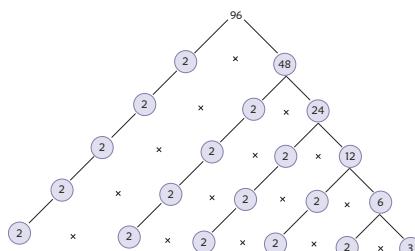
(c)



(d)



(e)



2. (a)

2	24
2	12
2	6
3	3
	1

(b)

2	36
2	18
3	9
3	3
	1

(c)

2	48
2	24
2	12
2	6
3	3
	1

Prime factors of 24
 $= 2 \times 2 \times 2 \times 3$

Prime factors of 36
 $= 2 \times 2 \times 3 \times 3$

Prime factors of 48
 $= 2 \times 2 \times 2 \times 2 \times 3$

(d)

2	60
2	30
3	15
3	5
	1

Prime factors of 60
 $= 2 \times 2 \times 3 \times 5$

(e)

2	56
2	28
2	14
7	7
	1

Prime factors of 56
 $= 2 \times 2 \times 2 \times 7$

3. (a)
$$\begin{array}{c|cc} 5 & 15, & 35 \\ \hline & 3, & 7 \end{array}$$

HCF = 5

(c)
$$\begin{array}{c|ccc} 3 & 6, & 9, & 12 \\ \hline & 2, & 3, & 4 \end{array}$$

HCF = 3

(e)
$$\begin{array}{c|ccc} 31 & 31, & 93, & 124 \\ \hline & 1, & 3, & 4 \end{array}$$

HCF = 31

(g)
$$\begin{array}{c|ccc} 2 & 32, & 36, & 60 \\ \hline 2 & 16, & 18, & 30 \\ & 8, & 9, & 15 \end{array}$$

HCF = $2 \times 2 = 4$

(b)
$$\begin{array}{c|cc} 2 & 80, & 140 \\ \hline 2 & 40, & 70 \\ 5 & 20, & 35 \\ \hline & 4, & 7 \end{array}$$

HCF = $2 \times 2 \times 5 = 20$

(d)
$$\begin{array}{c|cccc} 3 & 18, & 27, & 72 \\ \hline 3 & 6, & 9, & 24 \\ & 2, & 3, & 8 \end{array}$$

HCF = $3 \times 3 = 9$

(f)
$$\begin{array}{c|ccc} 2 & 54, & 90, & 108 \\ \hline 3 & 27, & 45, & 54 \\ 3 & 9, & 15, & 18 \\ \hline & 3, & 5, & 6 \end{array}$$

HCF = $2 \times 3 \times 3 = 18$

(h)
$$\begin{array}{c|ccc} 31 & 62, & 93, & 124 \\ \hline & 2, & 3, & 4 \end{array}$$

HCF = 31

4. (a) No (b) Yes (c) Yes

Practice Exercise 7.6

1. (a) multiple of 8 = 8, 16, **24**; multiple of 12 = 12, **24**, 36

The lowest common multiple of 8 and 12 is 24.

(b) multiple of 12 = 12, 24, 36, **48**; multiple of 16 = 16, 32, **48**, 64

The lowest common multiple of 12 and 16 is **48**.

(c) multiple of 24 = 24, 48, **72**, 96; multiple of 36 = 36, **72**, 108, 144

The lowest common multiple of 24 and 36 is 72.

(d) multiple of 7 = 7, 14, **21**, 28; multiple of 21 = **21**, 42, 63

The lowest common multiple of 7 and 21 is 21.

(e) multiple of 5 = 5, 10, **15**, 20; multiple of 15 = **15**, 30

The lowest common multiple of 5 and 15 is 15.

(f) multiple of 8 = 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 89, 104, 112, **120**; multiple of 10 = 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, **120**; multiple of 12 = 12, 24, 36, 48, 60, 72, 84, 96, 108, **120**

The lowest common multiple of 8 and 10 is 12 is 120.

(g) multiple of 4 = 4, 8, **12**; multiple of 6 = 6, **12**, 18; multiple of 12 = **12**, 24

The lowest common multiple of 4 and 6 is 12 is 12.

(h) multiple of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, **30**; multiple of 5 = 5, 10, 15, 20, 25, **30**; multiple of 10 = 10, 20, **30**

The lowest common multiple of 3 and 5 is 10 is 30.

2.	(a)	5 15, 25
		3 3, 5
		5 1, 5
		1, 1

$$\text{LCM} = 5 \times 3 \times 5 \\ = 75$$

(b)	5 15, 20
	3 3, 4
	4 1, 4
	1, 1

$$\text{LCM} = 5 \times 3 \times 4 \\ = 60$$

(c)	2 12, 16
	2 6, 8
	3 3, 4
	4 1, 4
	1, 1

$$\text{LCM} = 2 \times 2 \times 3 \times 4 \\ = 48$$

(d)	2 10, 12
	5 5, 6
	6 1, 6
	1, 1

$$\text{LCM} = 2 \times 5 \times 6 \\ = 60$$

(e)	19 19, 57
	3 1, 3
	1, 1

$$\text{LCM} = 19 \times 3 \\ = 57$$

(f)	2 20, 30
	2 10, 15
	3 5, 15
	5 5, 5
	1, 1

$$\text{LCM} = 2 \times 2 \times 3 \times 5 \\ = 60$$

(g)	5 25, 35
	5 5, 7
	7 1, 7
	1, 1

$$\text{LCM} = 5 \times 5 \times 7 = 175$$

(h)	2 16, 24
	2 8, 12
	2 4, 6
	2 2, 3
	3 1, 3
	1, 1

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 3 = 48$$

(i)	2 5, 8, 12
	2 5, 4, 6
	2 5, 2, 3
	3 5, 1, 3
	5 5, 1, 1
	1, 1, 1

$$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 5 = 120$$

(j)	2 15, 25, 30
	3 15, 25, 15
	5 5, 25, 5
	5 1, 5, 1
	1, 1, 1

$$\text{LCM} = 2 \times 3 \times 5 \times 5 = 150$$

(k)	2 8, 10, 12
	2 4, 5, 6
	2 2, 5, 3
	3 1, 5, 3
	5 1, 5, 1
	1, 1, 1

$$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 5 \\ = 120$$

(l)	2 24, 36, 48
	2 12, 18, 24
	2 6, 9, 12
	2 3, 9, 6
	3 3, 9, 3
	3 1, 3, 1
	1, 1, 1

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \\ = 144$$

Mental math zone

1. (a) Multiples of 2 = 2, 4, **6**, 8, 10, **12**, 14, 18, **18**, 20, 22, **24**, 26, 28, **30**, 32, 34, **36**

Multiples of 6 = **6**, **12**, **18**, **24**, **30**, **36**, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96

First six common multiples of 2 and 6 = 6, 12, 18, 24, 30, 36

- (b) Multiples of 5 = 5, **10**, 15, **20**, 25, **30**, 35, **40**, 45, **50**, 55, **60**, 65

Multiples of 10 = **10**, **20**, **30**, **40**, **50**, **60**, 70

First six common multiples of 5 and 10 = 10, 20, 30, 40, 50, 60

(c) Another Method :

LCM of 8 and 15 = 120

Six multiples of 120 are = 120, 240, 360, 480, 600, 720

2	18, 24, 30
3	9, 12, 15
3	3, 4, 5
4	1, 4, 5
5	1, 1, 5
	1, 1, 1

$$\begin{aligned} \text{LCM of } 18, 24 \text{ and } 30 \text{ are} \\ = 2 \times 3 \times 3 \times 4 \times 5 \\ = 360 \end{aligned}$$

3. (a) 1, 2, 3, 4, 6, 8, 12, 24 (b) 1, 2, 4, 7, 8, 14, 28, 56

4. (a) 36 → 1, 2, 3, 4, 6, 9, 12, 18, 36;

48 → 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

common factor of 36 and 48 are = 1, 2, 3, 4, 6 12.

(b) 15 → 1, 3, 5, 15; 45 → 1, 3, 5, 15

common factor of 15 and 45 are = 1, 3, 5 and 15

(c) 42 → 1, 2, 3, 6; 60 → 1, 2, 3, 4, 5, 6

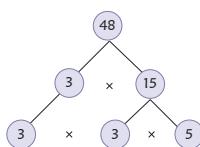
common factor of 42 and 60 are = 1, 2, 3 and 6

5. (a)	$\begin{array}{ c ccc } \hline 2 & 20, & 35, & 45 \\ & & & \\ & 4, & 7, & 9 \\ \hline \end{array}$	HCF of 20, 35 and 45 is 5
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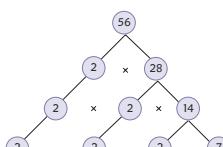
(b)	$\begin{array}{ c ccc } \hline 11 & 22, & 33, & 77 \\ & & & \\ & 3, & 3, & 7 \\ \hline \end{array}$	HCF of 22, 33 and 77 is 11
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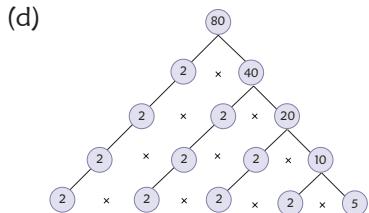
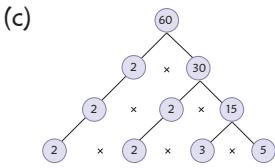
6. 5, 17, 53, 67

7. (a)

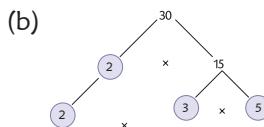
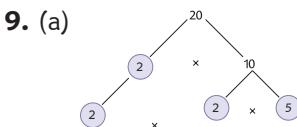


- (b)





- 8.** (a) Divisible by 3, 6 and 9 (b) Divisible by 3, 6 and 9 (c) Divisible by 3, 6, 9 and 10 (d) Divisible by 3, 6, 9 and 10 (e) Divisible by 3, 6 and 10



- 10.** (a) 2 (b) 97 (c) twin prime numbers (d) composite (e) 25

Multiple Choice Questions MCQs

- 1. 1 2. unique 3. 97 4. 7 and 9**

Practice Exercise 8.1

1. (a) $\frac{1}{4}$ (b) $\frac{3}{8}$ (c) $\frac{1}{3}$ (d) $\frac{2}{4}$

2. (a) Numerator = 2; Denominator = 7

(b) Numerator = 3; Denominator = 5

(c) Numerator = 4; Denominator = 9

(d) Numerator = 6; Denominator = 7

3. (a) $\frac{1}{3}$ of 30 = $\frac{1}{3} \times 30 = \frac{30}{3} = \frac{10}{1} = 10$

(b) $\frac{1}{6}$ of 36 = $\frac{1}{6} \times 36 = \frac{1}{6} \times 36 = \frac{1 \times 36}{6} = 1 \times 6 = 6$

(c) $\frac{5}{6}$ of 60 = $\frac{5}{6} \times 60 = 5 \times 10 = 50$

(d) $\frac{1}{8}$ of 64 = $\frac{1}{8} \times 64 = 1 \times 8 = 8$

4. (a) three-fifths = $\frac{3}{5}$ (b) five-sixths = $\frac{5}{6}$ (c) five-eighths = $\frac{5}{8}$ (d) one-twelfths = $\frac{1}{12}$ (e) six-sevenths = $\frac{6}{7}$ (f) one-third = $\frac{1}{3}$

5. (a) $\frac{3}{5} = \frac{9}{15}$ (b) $\frac{6}{11} = \frac{24}{44}$ (c) $\frac{2}{7} = \frac{8}{28}$ (d) $\frac{6}{13} = \frac{18}{39}$

6. (a) $\frac{5}{7} = \frac{5}{7}$ (b) $\frac{3}{11} < \frac{5}{11}$ (c) $\frac{6}{13} < \frac{9}{13}$

Practice Exercise 8.2

1. (a) $\frac{1}{4}$ Yes $\frac{2}{8}$ (b) $\frac{1}{4}$ No $\frac{3}{8}$ (c) $\frac{2}{6}$ Yes $\frac{4}{12}$ (d) $\frac{1}{12}$ No $\frac{1}{6}$
2. (a) $\frac{1}{3} \rightarrow \frac{2}{6}, \frac{3}{9}, \frac{4}{12}, \frac{5}{15}, \frac{6}{18}$ (b) $\frac{2}{5} \rightarrow \frac{4}{10}, \frac{6}{15}, \frac{8}{20}, \frac{10}{25}, \frac{12}{30}$
 (c) $\frac{3}{4} \rightarrow \frac{6}{8}, \frac{9}{12}, \frac{12}{16}, \frac{15}{20}, \frac{18}{24}$ (d) $\frac{5}{6} \rightarrow \frac{10}{12}, \frac{15}{18}, \frac{20}{24}, \frac{25}{30}, \frac{30}{36}$
 (e) $\frac{6}{7} \rightarrow \frac{12}{14}, \frac{18}{21}, \frac{24}{28}, \frac{30}{35}, \frac{36}{42}$
3. (a) $\frac{1}{2} = \frac{4}{8}$ (b) $\frac{2}{4} = \frac{4}{8}$ (c) $\frac{3}{2} = \frac{12}{8}$ (d) $\frac{5}{4} = \frac{10}{8}$ (e) $\frac{7}{4} = \frac{14}{8}$
4. (a) $\frac{2}{7} = \frac{16}{56}$ (b) $\frac{8}{4} = \frac{16}{8}$ (c) $\frac{2}{6} = \frac{16}{48}$ (d) $\frac{4}{5} = \frac{16}{20}$ (e) $\frac{4}{11} = \frac{16}{44}$
5. (a) $\frac{2}{3}$ and $\frac{9}{15}$; No (b) $\frac{3}{5}$ and $\frac{15}{25}$; Yes (c) $\frac{2}{9}$ and $\frac{7}{8}$; No (d) $\frac{5}{6}$ and $\frac{30}{36}$; Yes
6. (a) $\frac{1}{4} = \frac{8}{32}$ (b) $\frac{6}{18} = \frac{2}{6}$ (c) $\frac{2}{9} = \frac{6}{27}$ (d) $\frac{6}{9} = \frac{24}{36}$

Practice Exercise 8.3

1. (a) $\frac{8}{18} = \frac{4}{9}$ (b) $\frac{40}{44} = \frac{10}{11}$ (c) $\frac{12}{18} = \frac{2}{3}$ (d) $\frac{10}{15} = \frac{2}{3}$
 (e) $\frac{26}{65} = \frac{2}{5}$ (f) $\frac{21}{35} = \frac{3}{5}$ (g) $\frac{30}{35} = \frac{6}{7}$ (h) $\frac{27}{36} = \frac{3}{4}$
 (i) $\frac{45}{54} = \frac{5}{6}$ (j) $\frac{32}{56} = \frac{4}{7}$ (k) $\frac{45}{165} = \frac{3}{11}$

Practice Exercise 8.4

1. $\frac{1}{8}, \frac{6}{8}, \frac{2}{9}, \frac{4}{9}, \frac{11}{9}, \frac{5}{9}, \frac{2}{4}, \frac{15}{4}$ 2. $\frac{1}{3}, \frac{1}{7}, \frac{1}{10}, \frac{1}{9}, \frac{1}{2}, \frac{1}{12}$
3. Proper fractions = $\frac{3}{7}, \frac{12}{15}, \frac{7}{21}, \frac{27}{40}, \frac{45}{47}, \frac{8}{50}, \frac{5}{25}$
 Improper fractions = $\frac{8}{5}, \frac{15}{14}, \frac{10}{3}$
4. (a) $3\frac{3}{5} = \frac{3 \times 5 + 3}{5} = \frac{15 + 3}{5} = \frac{18}{5}$
 (b) $2\frac{1}{7} = \frac{2 \times 7 + 1}{7} = \frac{14 + 1}{7} = \frac{15}{7}$
 (c) $5\frac{4}{5} = \frac{5 \times 5 + 4}{5} = \frac{25 + 4}{5} = \frac{29}{5}$
 (d) $7\frac{11}{13} = \frac{7 \times 13 + 11}{13} = \frac{91 + 11}{13} = \frac{102}{13}$

$$(e) 5\frac{4}{8} = \frac{5 \times 8 + 4}{8} = \frac{40 + 4}{8} = \frac{44}{8}$$

$$(f) 4\frac{2}{7} = \frac{4 \times 7 + 2}{7} = \frac{28 + 2}{7} = \frac{30}{7}$$

$$(g) 2\frac{1}{9} = \frac{2 \times 9 + 1}{9} = \frac{18 + 1}{9} = \frac{19}{9}$$

$$(h) 6\frac{4}{8} = \frac{6 \times 8 + 4}{8} = \frac{48 + 4}{8} = \frac{52}{8}$$

Practice Exercise 8.5

1. (a) $\frac{2}{9} \square \frac{2}{3}$ We convert them into like fractions first

L.C.M of 9 and 3 = $3 \times 3 = 9$

$$\frac{2}{9} = \frac{2 \times 1}{9 \times 1} = \frac{2}{9}; \frac{2}{3} = \frac{2 \times 3}{3 \times 3} = \frac{6}{9}$$

Now $\frac{2}{9}$ and $\frac{6}{9}$ are like fractions

$$\text{As } \frac{2}{9} < \frac{6}{9} \quad \text{So, } \frac{2}{9} < \frac{2}{3}$$

$$(b) \frac{5}{8} \square \frac{4}{5}$$

L.C.M of 8 and 5 = $8 \times 5 = 40$

$$\frac{5}{8} = \frac{5 \times 5}{8 \times 5} = \frac{25}{40}; \frac{4}{5} = \frac{4 \times 8}{5 \times 8} = \frac{32}{40}$$

Now $\frac{25}{40}$ and $\frac{32}{40}$ are like fractions

$$\text{As } \frac{25}{40} > \frac{32}{40} \quad \text{So, } \frac{5}{8} > \frac{4}{5}$$

$$(c) \frac{8}{13} \square \frac{10}{17}$$

L.C.M of 13 and 17 = $13 \times 17 = 221$

$$\frac{8}{13} = \frac{8 \times 17}{13 \times 17} = \frac{136}{221}; \frac{10}{17} = \frac{10 \times 13}{17 \times 13} = \frac{130}{221}$$

Now $\frac{136}{221}$ and $\frac{130}{221}$ are like fractions

$$\text{As } \frac{136}{221} > \frac{130}{221} \quad \text{So, } \frac{8}{13} > \frac{10}{17}$$

$$(d) \frac{7}{11} \square \frac{8}{17}$$

L.C.M of 11 and 17 = $11 \times 17 = 187$

$$\frac{7}{11} = \frac{7 \times 17}{11 \times 17} = \frac{119}{187}; \frac{8}{17} = \frac{8 \times 11}{17 \times 11} = \frac{88}{187}$$

Now $\frac{119}{187}$ and $\frac{88}{187}$ are like fractions

$$\text{As } \frac{119}{187} > \frac{88}{187} \quad \text{So, } \frac{7}{11} > \frac{8}{17}$$

3	9,	3
3	3,	1
	1,	1

$$(e) \frac{11}{15} \square \frac{13}{15}$$

$\frac{11}{15}$ and $\frac{13}{15}$ are like terms

$$\text{So, } \frac{11}{15} < \frac{13}{15}$$

$$(f) \frac{14}{35} \square \frac{17}{35}$$

$\frac{14}{35}$ and $\frac{17}{35}$ are like terms

$$\text{So, } \frac{14}{35} < \frac{17}{35}$$

$$(g) \frac{5}{14} \square \frac{9}{21}$$

L.C.M of 14 and 21 = $2 \times 3 \times 7 = 42$

$$\frac{5}{14} = \frac{5 \times 3}{14 \times 3} = \frac{15}{42}; \frac{9}{21} = \frac{9 \times 2}{21 \times 2} = \frac{18}{42}$$

Now $\frac{15}{42}$ and $\frac{18}{42}$ are like fractions

$$\text{As } \frac{15}{42} < \frac{18}{42} \quad \text{So, } \frac{5}{14} < \frac{9}{21}$$

$$(h) \frac{17}{29} \square \frac{24}{29}$$

$\frac{17}{29}$ and $\frac{24}{29}$ are like terms

$$\text{So, } \frac{17}{29} < \frac{24}{29}$$

$$2. (a) \frac{3}{7} \text{ and } \frac{5}{12}$$

L.C.M of 7 and 12 = $7 \times 12 = 84$

$$\frac{3}{7} = \frac{3 \times 12}{7 \times 12} = \frac{36}{84}; \frac{5}{12} = \frac{5 \times 7}{12 \times 7} = \frac{35}{84}$$

Now $\frac{36}{84}$ and $\frac{35}{84}$ are like terms

As $\frac{36}{84}$ is the greater fraction

So, $\frac{3}{7}$ is the greater fraction

$$(b) \frac{11}{13} \text{ and } \frac{9}{13}$$

$\frac{11}{13}$ and $\frac{9}{13}$ are like terms.

So, $\frac{11}{13}$ is the greater fraction

$$(c) \frac{7}{15} \text{ and } \frac{6}{13}$$

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

7	7, 12
12	1, 12
	1, 1

L.C.M. of 15 and 13 = 195

$$\frac{7}{15} = \frac{7 \times 13}{15 \times 13} = \frac{91}{195}; \frac{6}{13} = \frac{6 \times 15}{13 \times 15} = \frac{90}{195}$$

As $\frac{91}{195}$ is the greater fraction

So, $\frac{7}{15}$ is the greater fraction

(d) $\frac{6}{9}$ and $\frac{7}{9}$

$\frac{6}{9}$ and $\frac{7}{9}$ are like terms.

So, $\frac{7}{9}$ is the greater fraction

3. (a) $\frac{6}{13}$ and $\frac{2}{5}$

L.C.M of 13 and 5 = 65

$$\frac{6}{13} = \frac{6 \times 5}{13 \times 5} = \frac{30}{65}; \frac{2}{5} = \frac{2 \times 13}{5 \times 13} = \frac{26}{65}$$

As $\frac{26}{65}$ is the smaller fraction

So, $\frac{2}{5}$ is the smaller fraction

(b) $\frac{7}{9}$ and $\frac{8}{15}$

L.C.M of 9 and 15 = 135

$$\frac{7}{9} = \frac{7 \times 15}{9 \times 15} = \frac{105}{135}; \frac{8}{15} = \frac{8 \times 9}{15 \times 9} = \frac{72}{135}$$

As $\frac{72}{135}$ is the smaller fraction

So, $\frac{8}{15}$ is the smaller fraction

(c) $\frac{3}{4}$ and $\frac{9}{11}$

L.C.M of 4 and 11 = 44

$$\frac{3}{4} = \frac{3 \times 11}{4 \times 11} = \frac{33}{44}; \frac{9}{11} = \frac{9 \times 4}{11 \times 4} = \frac{36}{44}$$

As $\frac{33}{44}$ is the smaller fraction

So, $\frac{3}{4}$ is the smaller fraction

(d) $\frac{3}{5}$ and $\frac{9}{2}$

L.C.M of 5 and 2 = 10

$$\frac{3}{5} = \frac{3 \times 2}{5 \times 2} = \frac{6}{10}; \frac{9}{2} = \frac{9 \times 5}{2 \times 5} = \frac{45}{10}$$

As $\frac{6}{10}$ is the smaller fraction

So, $\frac{3}{5}$ is the smaller fraction

4. (a) $\frac{5}{3}, \frac{2}{3}, \frac{4}{3}, \frac{1}{3}$ are like fractions.

As, $\frac{1}{3} < \frac{2}{3} < \frac{4}{3} < \frac{5}{3}$

so $\frac{1}{3}, \frac{2}{3}, \frac{4}{3}, \frac{5}{3}$ are in ascending order.

(b) $\frac{1}{11}, \frac{2}{11}, \frac{3}{11}, \frac{4}{11}$ are like fractions.

As, $\frac{1}{11} < \frac{2}{11} < \frac{3}{11} < \frac{4}{11}$

so $\frac{1}{11}, \frac{2}{11}, \frac{3}{11}, \frac{4}{11}$ are in ascending order.

(c) $\frac{2}{17}, \frac{4}{17}, \frac{1}{17}, \frac{10}{17}$ are like fractions.

As, $\frac{1}{17} < \frac{2}{17} < \frac{4}{17} < \frac{10}{17}$

so $\frac{1}{17}, \frac{2}{17}, \frac{4}{17}, \frac{10}{17}$ are in ascending order.

Practice Exercise 8.6

1. (a) $\frac{2}{3} + \frac{3}{5} =$ LCM of 3 and 5 is 15

$$\frac{2}{3} = \frac{2 \times 5}{3 \times 5} = \frac{10}{15}; \frac{3}{5} = \frac{3 \times 3}{5 \times 3} = \frac{9}{15}$$

$$\text{Hence } \frac{2}{3} + \frac{3}{5} = \frac{10}{15} + \frac{9}{15}$$

$$= \frac{10+9}{15} = \frac{19}{15}$$

(b) $\frac{3}{4} + \frac{4}{12} =$ LCM of 4 and 12

$$= 4 \times 3 = 12$$

$$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}; \frac{4}{12} = \frac{4 \times 1}{12 \times 1} = \frac{4}{12}$$

$$\text{Hence } \frac{3}{4} + \frac{4}{12} = \frac{9}{12} + \frac{4}{12}$$

$$= \frac{9+4}{12} = \frac{13}{12} = 1\frac{1}{12}$$

4	4, 12
3	1, 3
	1, 1

$$(c) \frac{5}{8} + \frac{5}{16} = \text{LCM of } 8 \text{ and } 16 \text{ is } 16$$

$$\frac{5}{8} = \frac{5 \times 2}{8 \times 2} = \frac{10}{16}; \frac{5}{16} = \frac{5 \times 1}{16 \times 1} = \frac{5}{16}$$

8	8, 16
2	1, 2
	1, 1

$$\text{Hence } \frac{5}{8} + \frac{5}{16} = \frac{10}{16} + \frac{5}{16}$$

$$= \frac{10 + 5}{16} = \frac{15}{16}$$

$$(d) \frac{1}{3} + \frac{3}{6} = \text{LCM of } 3 \text{ and } 6 = 3 \times 2 = 6$$

$$\frac{1}{3} = \frac{1 \times 2}{3 \times 2} = \frac{2}{6}; \frac{3}{6} = \frac{3 \times 1}{6 \times 1} = \frac{3}{6}$$

3	3, 6
2	1, 2
	1, 1

$$\text{Hence } \frac{1}{3} + \frac{3}{6} = \frac{2}{6} + \frac{3}{6}$$

$$= \frac{2 + 3}{6} = \frac{5}{6}$$

$$(e) \frac{1}{3} + \frac{1}{6} + \frac{7}{8} = \text{LCM of } 3, 6 \text{ and } 8$$

$$= 2 \times 3 \times 4 = 24$$

$$\frac{1}{3} = \frac{1 \times 8}{3 \times 8} = \frac{8}{24}; \frac{1}{6} = \frac{1 \times 4}{6 \times 4} = \frac{4}{24}; \frac{7}{8} = \frac{7 \times 3}{8 \times 3} = \frac{21}{24}$$

$$\text{Hence } \frac{1}{3} + \frac{1}{6} + \frac{7}{8} = \frac{8}{24} + \frac{4}{24} + \frac{21}{24}$$

$$= \frac{8 + 4 + 21}{24} = \frac{33}{24} = 1\frac{9}{24}$$

2	3, 6, 8
3	3, 3, 4
4	1, 1, 4
	1, 1, 1

$$(f) \frac{2}{4} + \frac{2}{5} + \frac{2}{3} = \text{LCM of } 4, 5 \text{ and } 3$$

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

$$\frac{2}{4} = \frac{2 \times 15}{4 \times 15} = \frac{30}{60}; \frac{2}{5} = \frac{2 \times 12}{5 \times 12} = \frac{24}{60}; \frac{2}{3} = \frac{2 \times 20}{3 \times 20} = \frac{40}{60}$$

$$\text{Hence } \frac{2}{4} + \frac{2}{5} + \frac{2}{3} = \frac{30}{60} + \frac{24}{60} + \frac{40}{60}$$

$$= \frac{30 + 24 + 40}{60} = \frac{94}{60} = 1\frac{34}{60}$$

$$(g) \frac{5}{8} + \frac{3}{4} + \frac{2}{6} = \text{LCM of } 8, 4 \text{ and } 6$$

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

$$\frac{5}{8} = \frac{5 \times 3}{8 \times 3} = \frac{15}{24}; \frac{3}{4} = \frac{3 \times 6}{4 \times 6} = \frac{18}{24}; \frac{2}{6} = \frac{2 \times 4}{6 \times 4} = \frac{8}{24}$$

2	8, 4, 6
2	4, 2, 3
2	2, 1, 3
3	1, 1, 3
	1, 1, 1

$$\text{Hence } \frac{5}{8} + \frac{3}{4} + \frac{2}{6} = \frac{15}{24} + \frac{18}{24} + \frac{8}{24}$$

$$= \frac{15 + 18 + 8}{24} = \frac{41}{24} = 1\frac{17}{24}$$

(h) $\frac{3}{10} + \frac{8}{15} + \frac{11}{30} = \text{LCM of } 10, 15 \text{ and } 30$
 $= 2 \times 3 \times 5 = 30$
 $\frac{3}{10} = \frac{3 \times 3}{10 \times 3} = \frac{9}{30}; \frac{8}{15} = \frac{8 \times 2}{15 \times 2} = \frac{16}{30};$
 $\frac{11}{30} = \frac{11 \times 1}{30 \times 1} = \frac{11}{30}$ (converting into like fraction)

Hence $\frac{3}{10} + \frac{8}{15} + \frac{11}{30} = \frac{9}{30} + \frac{16}{30} + \frac{11}{30}$

 $= \frac{9 + 16 + 11}{30} = \frac{36}{30} = \frac{6}{5} = 1\frac{1}{5}$

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

2. (a) $4\frac{1}{4} + 2\frac{1}{5} = (4 + 2) + \left(\frac{1}{4} + \frac{1}{5}\right)$
 $= 6 + \left(\frac{5}{20} + \frac{4}{20}\right)$ (converting into like fraction)
 $= 6 + \left(\frac{5+4}{20}\right)$
 $= 6 + \frac{9}{20} = 6\frac{9}{20}$ (converting into a mixed numeral)

(b) $3\frac{1}{5} + 5\frac{2}{15} = (3 + 5) + \left(\frac{1}{5} + \frac{2}{15}\right)$
 $= 8 + \left(\frac{3}{15} + \frac{2}{15}\right)$ (converting into like fraction)
 $= 8 + \left(\frac{3+2}{15}\right)$
 $= 8 + \frac{5}{15} = 8 + \frac{1}{3} = 8\frac{1}{3}$ (converting into a mixed numeral)

(c) $1\frac{1}{2} + 2\frac{1}{10} = (1 + 2) + \left(\frac{1}{2} + \frac{1}{10}\right)$
 $= 3 + \left(\frac{5}{10} + \frac{1}{10}\right)$ (converting into like fraction)
 $= 3 + \left(\frac{5+1}{10}\right)$
 $= 3 + \frac{6}{10} = 3 + \frac{3}{5} = 3\frac{3}{5}$ (converting into a mixed numeral)

(d) $2\frac{3}{4} + 3\frac{1}{2} + 4\frac{5}{12} = (2 + 3 + 4) + \left(\frac{3}{4} + \frac{1}{2} + \frac{5}{12}\right)$
 $= 9 + \left(\frac{9}{12} + \frac{6}{12} + \frac{5}{12}\right)$ (converting into like fraction)
 $= 9 + \left(\frac{9+6+5}{12}\right)$
 $= 9 + \frac{20}{12} = 9 + \frac{5}{3} = (9 + 1) + \frac{2}{3} = 10\frac{2}{3}$

$$(e) 3\frac{5}{6} + 2\frac{5}{16} + 5\frac{1}{24} = (3 + 2 + 5) + \left(\frac{5}{6} + \frac{5}{16} + \frac{1}{24}\right)$$

$$= 10 + \left(\frac{40}{48} + \frac{15}{48} + \frac{2}{48}\right) \text{ (converting into like fraction)}$$

$$= 10 + \left(\frac{40 + 15 + 2}{48}\right)$$

$$= 10 + \frac{57}{48} = (10 + 1) + \frac{9}{48} = 11\frac{9}{48}$$

$$(f) \frac{7}{9} + 3\frac{2}{3} + 2\frac{1}{6} = (0 + 3 + 2) + \left(\frac{7}{9} + \frac{2}{3} + \frac{1}{6}\right)$$

$$= 5 + \left(\frac{14}{18} + \frac{12}{18} + \frac{3}{18}\right) \text{ (converting into like fraction)}$$

$$= 5 + \left(\frac{14 + 12 + 3}{18}\right)$$

$$= 5 + \frac{29}{18} = (5 + 1) + \frac{11}{18} = 6\frac{11}{18}$$

Practice Exercise 8.7

1. (a) $\frac{12}{17} - \frac{9}{17} = \frac{3}{17}$ (b) $\frac{17}{33} - \frac{11}{33} = \frac{6}{33}$

(c) $\frac{5}{11} - \frac{4}{11} = \frac{1}{11}$ (d) $\frac{7}{13} - \frac{4}{13} = \frac{3}{13}$

2. (a) $\frac{1}{5} - \frac{1}{10}$ LCM of 5 and 10

$$5 \times 2 = 10$$

$$\frac{1}{5} = \frac{1 \times 2}{5 \times 2} = \frac{2}{10}; \frac{1}{10} = \frac{1 \times 1}{10 \times 1} = \frac{1}{10}$$

$$\text{Hence, } \frac{1}{5} - \frac{1}{10} = \frac{2}{10} - \frac{1}{10} = \frac{1}{10}$$

(b) $\frac{7}{10} - \frac{1}{5}$ LCM of 10 and 5 = 10

$$\frac{7}{10} = \frac{7 \times 1}{10 \times 1} = \frac{7}{10}; \frac{1}{5} = \frac{1 \times 2}{5 \times 2} = \frac{2}{10}$$

$$\text{Hence, } \frac{7}{10} - \frac{1}{5} = \frac{7}{10} - \frac{2}{10} = \frac{5}{10} = \frac{1}{2}$$

(c) $\frac{3}{4} - \frac{1}{5}$ LCM of 4 and 5 = 20

$$\frac{3}{4} = \frac{3 \times 5}{4 \times 5} = \frac{15}{20}; \frac{1}{5} = \frac{1 \times 4}{5 \times 4} = \frac{4}{20}$$

$$\text{Hence, } \frac{3}{4} - \frac{1}{5} = \frac{15}{20} - \frac{4}{20} = \frac{15 - 4}{20} = \frac{11}{20}$$

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

(e) $\frac{7}{9} - \frac{5}{12}$ LCM of 9 and 12

$$3 \times 2 \times 4 = 36$$

$$\frac{7}{9} = \frac{7 \times 4}{9 \times 4} = \frac{28}{36}; \frac{5}{12} = \frac{5 \times 3}{12 \times 3} = \frac{15}{36}$$

$$\text{Hence, } \frac{7}{9} - \frac{5}{12} = \frac{28}{36} - \frac{15}{36} = \frac{13}{36}$$

$$(f) \frac{14}{10} - \frac{3}{10} = \frac{14-3}{10} = \frac{11}{10} \quad (g) \frac{8}{16} - \frac{3}{16} = \frac{8-3}{16} = \frac{5}{16}$$

$$(h) \frac{21}{24} - \frac{16}{24} = \frac{21-16}{24} = \frac{5}{24}$$

Practice Exercise 8.8

1. A frog leaped in three jumps $= \frac{3}{5}\text{m} + \frac{3}{5}\text{m} + \frac{7}{10}\text{m}$

$$\text{LCM of } 5, 5 \text{ and } 10 = 10$$

$$\begin{aligned}\text{Total distance covered by frog} &= \left(\frac{3 \times 2 + 3 \times 2 + 7 \times 1}{10} \right) \text{m} \\ &= \left(\frac{6+6+7}{10} \right) \text{m} \\ &= \frac{19}{10} \text{m or } 1\frac{9}{10} \text{m}\end{aligned}$$

2. Gargi used sugar for coffee $= 1\frac{1}{3} \text{ cups} = \frac{4}{3} \text{ cups}$

$$\text{Gargi used sugar for ice-cream} = 2\frac{1}{5} \text{ cups} = \frac{11}{5} \text{ cups}$$

$$\text{Gargi used sugar for cake} = 3\frac{1}{6} \text{ cups} = \frac{19}{6} \text{ cups}$$

$$\text{Gargi used total cups of sugar} = \left(\frac{4}{3} + \frac{11}{5} + \frac{19}{6} \right) \text{ cups}$$

$$\begin{aligned}\text{L.C.M of } 3, 5, 6 = 30 &= \left(\frac{4 \times 10 + 11 \times 6 + 19 \times 5}{30} \right) \text{ cups} \\ &= \left(\frac{40+66+95}{30} \right) \text{ cups} \\ &= \frac{201}{30} \text{ or } 6\frac{21}{30} \text{ cups}\end{aligned}$$

$$\text{So Gargi used } 6\frac{21}{30} \text{ cups of sugar}$$

3. Ronald travelled in a train $= 2\frac{4}{5} \text{ hours} = \frac{14}{5} \text{ hours}$

$$\text{Ronald travelled in a bus} = 1\frac{3}{4} \text{ hours} = \frac{7}{4} \text{ hours}$$

$$\text{Ronald travelled in a autorickshaw} = \frac{5}{8} \text{ hours}$$

$$\text{Ronald travelled total time} = \left(\frac{14}{5} + \frac{7}{4} + \frac{5}{8} \right) \text{ hours}$$

$$\begin{aligned}
 \text{LCM of } 5, 4, 8 &= 2 \times 2 \times 2 \times 5 \\
 &= 40 \\
 &= \left(\frac{14 \times 8 + 7 \times 10 + 5 \times 5}{40} \right) \text{ hours} \\
 &= \left(\frac{112 + 70 + 25}{40} \right) \text{ hours} \\
 &= \frac{207}{40} \text{ or } 5\frac{7}{40} \text{ hours}
 \end{aligned}$$

4. Sumit read of a story book on Monday = $\frac{5}{13}$

Sumit read of a story book on Tuesday = $\frac{2}{13}$

Sumit read of a story book on Wednesday = $\frac{4}{13}$

$$\begin{aligned}
 \text{Sumit read of a story book in three days} &= \frac{5}{13} + \frac{2}{13} + \frac{4}{13} \\
 &= \left(\frac{5+2+4}{13} \right) \\
 &= \frac{11}{13} \text{ of the story book}
 \end{aligned}$$

5. Ravi drank juice = $\frac{9}{11}$ glass

Amit drank juice = $\frac{8}{11}$ glass

Ravi drank more juice than Amit = $\frac{9}{11} - \frac{8}{11} = \frac{1}{11}$ glass

Ravi drank $\frac{1}{11}$ glass more juice than Amit

6. Amit had sugar = $\frac{6}{13}$ kg

Amit used sugar = $\frac{3}{13}$ kg

Sugar left with Amit = $\left(\frac{6}{13} - \frac{3}{13} \right)$ kg = $\left(\frac{6-3}{13} \right)$ kg = $\frac{3}{13}$ kg

So, sugar left with Amit = $\frac{3}{13}$ kg

7. The height of wall's = $5\frac{4}{5}$ m = $\frac{29}{5}$ m

Lizard climed = $3\frac{2}{3}$ m = $\frac{11}{3}$ m

How much climbed = $\left(\frac{29}{5} - \frac{11}{3} \right)$ m

LCM of 5 and 3 = 15

$$\begin{aligned}
 \left(\frac{29 \times 3 - 11 \times 5}{15} \right) \text{ m} &= \left(\frac{87 - 55}{15} \right) \text{ m} \\
 &= \frac{32}{15} \text{ m} = 2\frac{2}{15} \text{ m}
 \end{aligned}$$

8. Total weight of a oil tin = $13\frac{1}{5}$ kg = $\frac{66}{5}$ kg

Oil contains by tin = $11\frac{3}{4}$ kg = $\frac{47}{4}$

Weight of the empty tin = $\left(\frac{66}{5} - \frac{47}{4}\right)$ kg
= $\left(\frac{66 \times 4 - 47 \times 5}{20}\right)$ kg
= $\left(\frac{264 - 235}{20}\right)$ kg
= $\left(\frac{29}{20}\right)$ kg = $1\frac{9}{20}$

So the weight of empty tin is $1\frac{9}{20}$

Mental math zone

1. (a) $\frac{12}{24}$ (b) $\frac{15}{45}$ (c) $\frac{5}{14}$ (d) $\frac{6}{7}$

2. (a) $\frac{4}{6}, \frac{6}{9}, \frac{8}{12}$ (b) $\frac{6}{8}, \frac{9}{12}, \frac{12}{16}$ (c) $\frac{2}{4}, \frac{3}{6}, \frac{4}{8}$ (b) $\frac{14}{18}, \frac{21}{27}, \frac{28}{36}$

3. (a) $3 \div 4$ (b) $13 \div 5$ (c) $9 \div 16$ (d) $20 \div 6$

4. (a) $\frac{5}{7}$ (b) $\frac{7}{9}$ (c) $\frac{8}{9}$ (d) $\frac{3}{4}$ **5.** $\frac{5}{11}, \frac{5}{9}, \frac{5}{7}, \frac{5}{6}$

6. $\frac{1}{3} + \frac{1}{5} + \frac{1}{7} = \frac{35 + 21 + 15}{105} = \frac{71}{105}$

7. $\frac{1}{2} - \frac{1}{4} - \frac{1}{8} = \frac{4 - 2 - 1}{8} = \frac{1}{8}$ **8.** $\frac{1}{2} - \frac{1}{3} = \frac{3 - 2}{6} = \frac{1}{6}$

9. $1 - \frac{3}{4} = \frac{4 - 3}{4} = \frac{1}{4}$

10. (a) > (b) > (c) > (d) =

(Multiple Choice Questions (MCQs))

1. The fraction equivalent to $\frac{1}{4}$ is $\frac{4}{16}$

2. Which one of the following is the greatest? $\frac{6}{7}$

3. One-fourth of a dozen is **3**

(Note : 1 dozen = 12)

So, $\frac{1}{4}$ of 12 = $\frac{1}{4} \times 12 = 3$

4. One sixth of a day is

(Note : 1 day = 24 hours)

$\frac{1}{6}$ of 24 hours = $\frac{1}{6} \times 24 = 4$ hours

5. Solve the $\frac{8}{11} + \frac{2}{11}$ is $\frac{10}{11}$

Practice Exercise 9.1

1. One chocolate costs	= ₹ 5
20 chocolate cost	= ₹ 5 × 20 = ₹ 100
2. One man drink of milk in a day	= 525 ml
5 man drink of milk in a day	= 525 ml × 5
	= 2625 ml
3. One egg costs	= ₹ 5.50
8 eggs cost	= ₹ 5.50 × 8 = ₹ 44
4. One pencil cost	= ₹ 2.50
6 pencil costs	= ₹ 2.50 × 6 = ₹ 15
5. One book has pages	= 85
12 books have pages	= 85 × 12 = 1020
	= 1020 pages
6. A factory produces trucks in each day	= 23
A factory produces trucks in 18 day	= 23 × 18
	= 414 trucks
7. Train covers a distance in 1 hour	= 36 km
Train covers a distance in 5 hour	= 36 km × 5
	= 180 km
8. 1 metre of cloth costs	= ₹45.50
17 metre of cloth cost	= ₹ 45.50 × 17
	= ₹ 773.50

Practice Exercise 9.2

1. 9 watches cost	= ₹ 7200
1 watch costs	= ₹ 7200 ÷ 9 = ₹ 800
2. 3 bundles of sugarcane cost	= ₹ 175
1 bundle of sugarcane costs	= ₹ 175 ÷ 3 = ₹ 58.33
3. The cost of 1 quintal (100 kg) rice	= ₹ 1500
The cost of 1 kg of rice	= ₹ 1500 ÷ 100
	= ₹ 15
4. 30 days a hostel used oil	= 180 litres
1 days a hostel used oil	= 180 ÷ 30
	= 6 litres
5. A car covers a distance in 4 hours	= 190 km
A car covers a distance in 1 hour	= 190 ÷ 4 = 47.50 km

6. A man makes toys in 7 days	= 637
A man makes toys in 1 days	= $637 \div 7$
	= 91 days
7. 8 Shirts can be made in cloth	= 16 metre
1 Shirt can be made in cloth	= $16 \div 8 = 2$ metre
8. A family consumes wheat in a week	= 35 kg
A family consumer wheat in a day	= $35 \div 7$
(Note – 1 week = 7 days)	= 5 days

Practice Exercise 9.3

.....

1. 5 books cost	= ₹ 425
1 book costs	= $425 \div 5$
	= ₹ 85
9 books cost	= 85×9
	= ₹ 765
2. 15 pens cost	= ₹ 225
1 pen costs	= $225 \div 15$
	= ₹ 15
6 pens cost	= $15 \times 6 = ₹ 90$
3. A worker earns in 7 days	= ₹ 455
A worker earns in 1 day	= $455 \div 7 =$
	= ₹ 65
A worker earn in 15 days	= 65×15
	= ₹ 975
4. A factory manufactures scooters in 18 days = 3600	
A factory manufactures scooters in 1 day	= $3600 \div 18$
	= 200
A factory manufactures scooters in 30 days	= 200×30
	= 6000
5. 7 litres of petrol cost	= ₹ 509.60
1 litre of petrol costs	= $509.60 \div 7$
	= ₹ 72.80
13 litres of petrol cost	= 72.80×13
	= ₹ 946.40
6. A cycle factory produces in 20 days	= 2600 cycles
A cycle factory produce in 1 day	= $2600 \div 20$
	= 130 cycles
A cycle factory produes in 30 days	= 130×30
(Note–1 month = 30 days)	= 3900 cycles

7. 16 kg of ghee cost	= ₹ 368
1 kg of ghee costs	= ₹ 368 ÷ 16
	= ₹ 23
15 kg of ghee cost	= 23 × 15
	= ₹ 345
8. 5 hours have minutes	= 300
1 hour have minutes	= 300 ÷ 5
	= 60
8 hours have minutes	= 60 × 8
	= 480 minutes
9. 13 bags of rice weigh	= 364 kg
1 bag of rice weigh	= 364 ÷ 13
	= 28 kg
55 bags of rice weigh	= 28 kg × 55
	= 1540 kg

Mental math zone

1. A maths test paper has 10 questions and the total marks are 100. If sakshi answers 8 questions correctly, how many marks will she get ?

Total marks for 100, questions = 10

Marks for 80, questions = 8

Marks for 0, questions = 2

Hence, sakshi will get 80 marks.

Multiple Choice Questions MCQs

1. The cost of 1 dozen bananas = ₹ 60

The cost of 1 banana = ₹ 60 ÷ 12

$$= ₹ 5$$

The cost of 7 bananas = ₹ 5 × 7

$$= ₹ 35$$

2. The weight of one box of apple = 4.5 kg.

The weight of 4 box of apple = 4.5 kg × 4 = 18 kg

3. The cost of 10 books = ₹ 800

The cost of 1 books = ₹ 800 ÷ 10

$$= ₹ 80$$

The cost of 15 books = ₹ 80 × 15

$$= ₹ 1200$$

4. The capacity of 9 buckets = 99 l

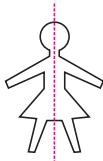
The capacity of 1 bucket = 99 l ÷ 9 = 11 l

The capacity of 16 buckets = 11 l × 16

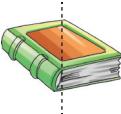
$$= 176 l$$

Practice Exercise 10.1

1. (a)  (b)  (e)  (g)  are symmetrical

2. (a)  (c) 

3. Draw the line / lines of symmetry.

- (a)  (b)  (d)  (f)  (g)  (h) 

Multiple Choice Questions MCQs

1. (d) 2. (c)

Practice Exercise 11.1

1. (a) $37 = 10$ $1 + 0 = 1$

(b) $27 = 9$ $9 = 9$

(c) $127 = 10$ $1 + 0 = 1$

(d) $12345 = 15$ $1 + 5 = 6$

2. (a) $1 = 9 + 2 = 11$

(b) $111 \div 3 = 37$

$12 = 9 + 3 = 111$

$222 \div 6 = 37$

$123 = 9 + 4 = 1111$

$333 \div 9 = 37$

$1234 = 9 + 5 = 11111$

$444 \div 12 = 37$

$12345 = 9 + 6 = 111111$

$555 \div 15 = 37$

3. (a) 5, 7, 9, 5, 7, 9, **5, 7, 9** (b) 1, 4, 5, 9, 14, 23, **37, 60, 97** (c) 2, 4, 8, 16, **32, 64, 128** (d) 1, 3, 5, 7, 9, 11, **13, 15, 17** (e) 2, 2, 5, 2, 2, 2, 5, 5, 2, 2, 2, 2, **5, 5, 5**

4. (e) $6 \times 6 - 5 \times 5 = 6 + 5 = 11$

5. (a) 163216 (b) 255025 (c) 367236 (d) 499849 (e) 652864

6. (a) $1 + 3 = 2 \times 2 = 4$ $1 + 3 + 5 + 7 + 9 = 5 \times 5 = 25$

(b) $1 + 3 + 5 = 3 \times 3 = 9$ $1 + 3 + 5 + 7 + 9 + 11 = 6 \times 6 = 36$

(c) $1 + 3 + 5 + 7 = 4 \times 4 = 16$ $1 + 3 + 5 + 7 + 11 + 13 = 7 \times 7 = 49$

7. (a) $1 + 2 + 3 + \dots + 10 = 55$

Ans – $31 + 32 + 33 + \dots + 40 = 355$

(b) $11 + 12 + 13 + \dots + 20 = 155$

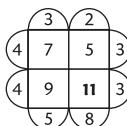
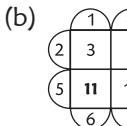
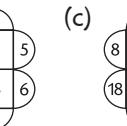
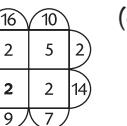
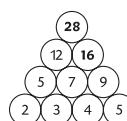
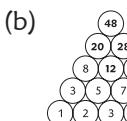
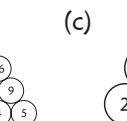
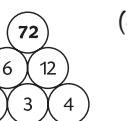
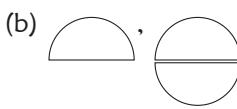
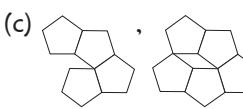
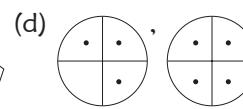
Ans – $41 + 42 + 43 + \dots + 50 = 455$

(c) $21 + 22 + 23 + \dots + 30 = 255$

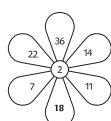
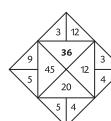
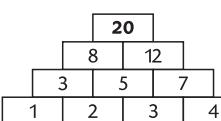
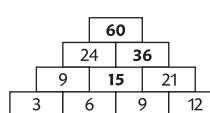
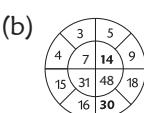
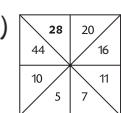
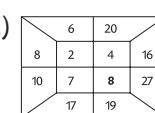
Ans - $51 + 52 + 53 + \dots + 60 = 555$

8. (a) 1206 → Yes (because $1206 \div 9 = 134$)
 (b) 2343 → No (because 2343 is not divisible by 9)
 (c) 7227 → Yes (because 7227 is divisible by 9)
 (d) 32456 → No (because 32456 is not divisible by 9)
 (e) 15750 → Yes (because 15750 is divisible by 9)
 (f) 56232 → Yes (because 56232 is divisible by 9)
 (g) 91354 → No (because 91354 is not divisible by 9)
 (h) 1020411 → Yes (because 1020411 is divisible by 9)

Practice Exercise 11.2

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

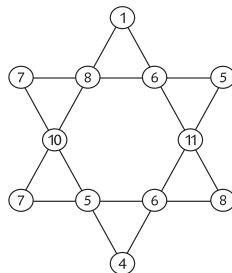
Mental math zone

1. (a) 5, 9, 13, 17, **21**, **25**, **29** (b) 3, 9, 27, 81, **243**, **729**, **2187**
2. (a)  (b)  (c) 
3. (a)  (b)  (c)  (d) 
4. (a) 2, 5, 11, 28, **47**, **95**, **191** (b) 7, 11, 19, 35, **67**, **131**, **259**

Multiple Choice Questions MCQs

1. 21 **2.** 32 **3.**

Activity Wizard



Practice Exercise 12.1

1. (a) 4 (b) 3 (c) vertex (d) no (e) 2

- | | | | | |
|---------------|------------|------------|------------|------------|
| 2. (a) | (b) | (c) | (d) | (e) |
| Closed | Open | Open | Open | Open |

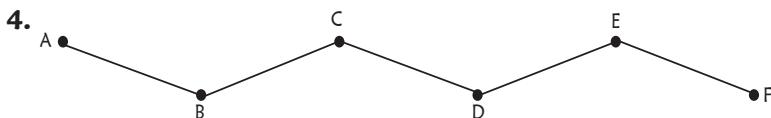
3.	Shape	Cube	Sphere	Cone	Cylinders	Cuboid
	Edges	12	0	1	2	12
	Vertices	8	0	1	0	8
Faces	Plane	6	0	1	2	6
	Curved	0	1	1	1	0

Practice Exercise 12.2

1. (a) P—
Ray
→ Q (b) A←
Line
→ B (c) A—
Line segment— B

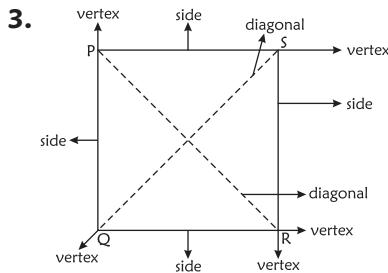
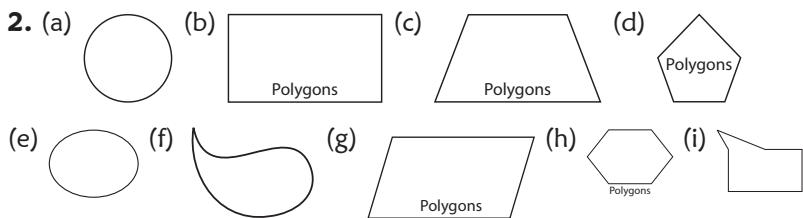
- 2.** (a)
5 Line Segment
- (b)
5 Line segment
- (c)
4 Line Segment

3. Do yourself.



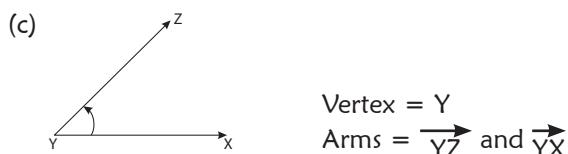
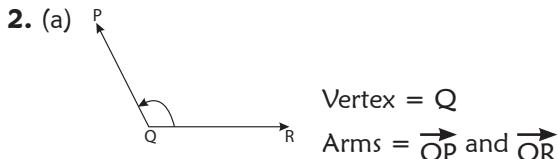
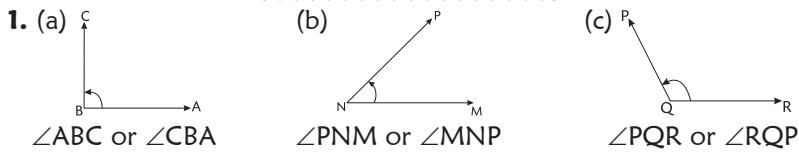
Practice Exercise 12.3

1. (a) False (b) True (c) True (d) False



- (a) Sides → PQ, QR, RS, SP
- (b) Vertices → $P, Q, R, S,$
- (c) Diagonals side → QS, PR
- (d) Opposite side → QR, PS or $PQ, SR,$
- (e) Adjacent side → $QR, RS ; RS, SP ; SP, PQ,$ and $PQ, QR.$

Practice Exercise 12.4

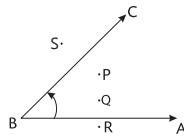


3. (a) In the interior of $\angle ABC$

Am — P and Q

(b) In the exterior of $\angle ABC$

An — S and R



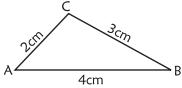
Practice Exercise 12.5

1. Side = AB, BC and CA,

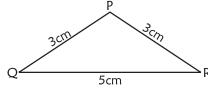
Vertices = A, B and C

Angle = $\angle A$, $\angle B$, $\angle C$

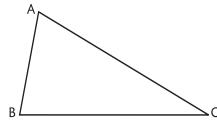
2. (a)



(b)



(c)

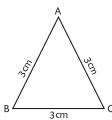


Scalene triangle

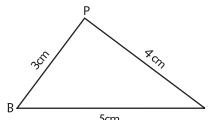
Isosceles triangle

equilateral triangle

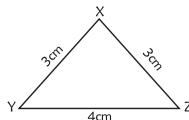
3. (a)



(b)



(c)



equilateral triangle

Scalene triangle

Isosceles triangle

Practice Exercise 12.6

1. (a) Centre \rightarrow O

(b) Radius \rightarrow OP, OB, OA

(c) Diameter \rightarrow AB

(d) Chords \rightarrow AB and CD

2. Do yourself.

3. (a) Radius = 13 cm

$$\text{Diameter} = 2 \times \text{radius}$$

$$= 2 \times 13 \text{ cm}$$

$$= 26 \text{ cm}$$

(b) radius = 8 cm

$$\text{Diameter} = 2 \times \text{radius}$$

$$= 2 \times 8 \text{ cm}$$

$$= 16 \text{ cm}$$

(c) Radius = 15 cm

$$\text{Diameter} = 2 \times \text{radius}$$

$$= 2 \times 15 \text{ cm}$$

$$= 30 \text{ cm.}$$

Practice Exercise 12.7

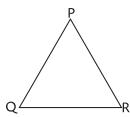
Do yourself

Mental math zone

1. (a) two (b) One (c) closed (d) four

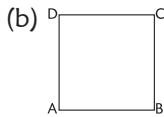
2. (a) True (b) False (c) True (d) False

3. (a)



sides— PQ, QR, RP

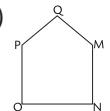
vertices— P, Q, R



sides— AB, BC, CD, DA

vertices— A, B, C, D

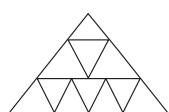
(c)



sides— PQ, QM, MN, NO, OP

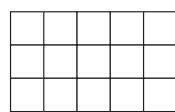
vertices— M, N, O, P, Q

4. (a)



triangles = 11

(b)



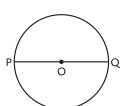
squares— 15

Multiple Choice Questions MCQs

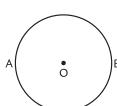
1. Isosceles triangle 2. radius = $\frac{\text{Diameter}}{2}$ 3. Chord

Activity Wizard

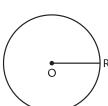
(a)



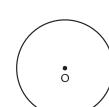
(b)



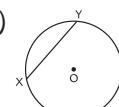
(c)



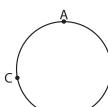
(d)



(e)



(f)

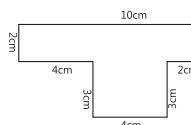


Practice Exercise 13.1

Do yourself

Practice Exercise 13.2

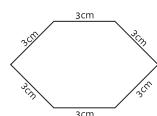
1. (a)



We know that the length of the boundary of a closed figure is called its perimeter.

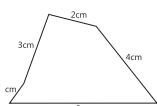
$$2\text{cm} + 4\text{cm} + 3\text{cm} + 4\text{cm} + 3\text{cm} + 2\text{cm} + 2\text{cm} + 10\text{cm} = 30\text{cm}$$

(b)

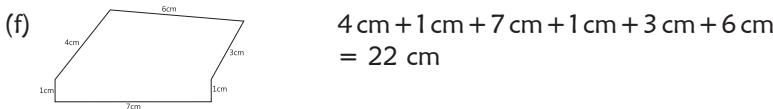
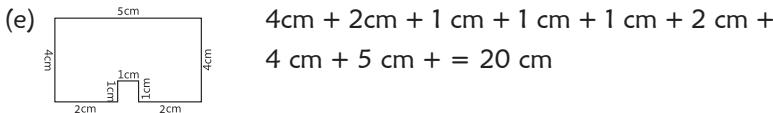
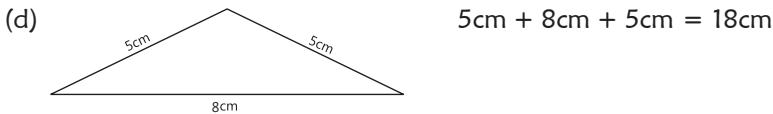


$$3\text{cm} + 3\text{cm} + 3\text{cm} + 3\text{cm} + 3\text{cm} + 3\text{cm} = 18\text{ cm}$$

(c)



$$3\text{cm} + 1\text{cm} + 6\text{cm} + 4\text{cm} + 2\text{cm} = 16\text{cm}$$



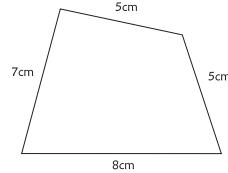
2. (a) Let the missing length be x .

So, Perimeter of the given figure = $7\text{cm} + 8\text{cm} + x\text{cm} + 5\text{cm}$

$$25\text{cm} = 20\text{cm} + x$$

$$25\text{cm} - 20\text{cm} = x$$

$$5\text{cm} = x$$



(b) Let the missing length be x .

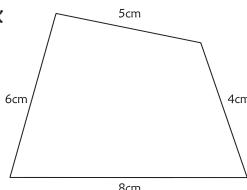
So, Perimeter of given figure = $6\text{cm} + 8\text{cm} + x\text{cm} + 5\text{cm}$

$$23\text{cm} = 19\text{cm} + x$$

$$23\text{cm} - 19\text{cm} = x$$

$$4\text{cm} = x$$

$$x = 4\text{cm}$$



(c) Let the missing length be x .

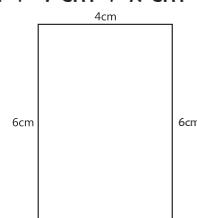
So, perimeter of the given figure = $6\text{cm} + 4\text{cm} + 4\text{cm} + x\text{cm}$

$$20\text{cm} = 14\text{cm} + x\text{cm}$$

$$20\text{cm} - 14\text{cm} = x\text{cm}$$

$$6\text{cm} = x\text{cm}$$

$$x = 6$$



3. Find the perimeter of triangle whose sides are,

(a) 5 cm, 6 cm, 7 cm

Perimeter of triangle = sum of three sides

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

(b) 25 cm, 24 cm, 22 cm

Perimeter of triangle = Sum of three sides

$$= 25\text{cm} + 24\text{cm} + 22\text{cm}$$

$$= 71\text{cm}$$

(c) 15 cm, 17cm, 19cm,

Perimeter of triangle = Sum of three sides

$$\begin{aligned} &= 15 \text{ cm} + 17 \text{ cm} + 19 \text{ cm} \\ &= 51 \text{ cm} \end{aligned}$$

4. We know that equilateral triangle has three equal sides so, Perimeter of equilateral triangle = Sum of three sides

$$\begin{aligned} &= 12 \text{ cm} + 12 \text{ cm} + 12 \text{ cm} \\ &= 36 \text{ cm} \end{aligned}$$

5. We know that equilateral triangle has three equal sides so

Let the side of equilateral triangle be x cm.

So, perimeter of equilateral triangle = Sum of three sides

$$51 \text{ cm} = (x + x + x) \text{ cm}$$

$$51 \text{ cm} = 3x \text{ cm}$$

$$x = \frac{51 \text{ cm}}{3} = 17 \text{ cm}$$

So, the side of equilateral triangle be 17 cm.

Practice Exercise 13.3

1. (a) Length = 26 cm, breadth = 13 cm

Area of a rectangle = length × breadth

$$\begin{aligned} &= 26 \text{ cm} \times 13 \text{ cm} \\ &= 338 \text{ cm}^2 \end{aligned}$$

(b) length = 45 cm, breadth = 25 cm

Area of a rectangle = length × breadth

$$\begin{aligned} &= 45 \text{ cm} \times 25 \text{ cm} \\ &= 1125 \text{ cm}^2 \end{aligned}$$

2. (a) Side = 15 cm

Area of a square = side × side

$$= 15 \text{ cm} \times 15 \text{ cm} = 225 \text{ cm}^2$$

(b) side = 36 cm

Area of a square = side × side

$$\begin{aligned} &= 36 \text{ cm} \times 36 \text{ cm} \\ &= 1296 \text{ cm}^2 \end{aligned}$$

(c) side = 22 cm

Area of a square = side × side

$$\begin{aligned} &= 22 \text{ cm} \times 22 \text{ cm} \\ &= 484 \text{ cm}^2 \end{aligned}$$

(d) side = 54 cm

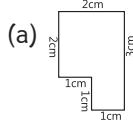
Area of a square = side × side

$$\begin{aligned} &= 54 \text{ cm} \times 54 \text{ cm} \\ &= 2916 \text{ cm}^2 \end{aligned}$$

3. Area of a square = side × side

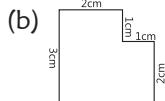
$$\begin{aligned}&= 64 \text{ cm} \times 64 \text{ cm} \\&= 4096 \text{ cm}^2\end{aligned}$$

Mental math zone



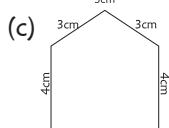
Perimeter of a given figure = Sum of all sides.

$$2 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 3 \text{ cm} + 2 \text{ cm} = 10 \text{ cm}$$



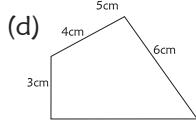
Perimeter of a given figure = sum of all sides

$$3 \text{ cm} + 3 \text{ cm} + 2 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 2 \text{ cm} = 12 \text{ cm}$$



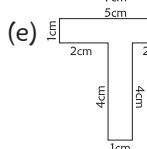
Perimeter of a given figure = sum of all sides

$$4 \text{ cm} + 5 \text{ cm} + 4 \text{ cm} + 3 \text{ cm} + 3 \text{ cm} = 19 \text{ cm}$$



Perimeter of a given figure = Sum of all sides

$$3 \text{ cm} + 7 \text{ cm} + 6 \text{ cm} + 4 \text{ cm} = 20 \text{ cm}$$



Perimeter of a given figure = Sum of all sides

$$\begin{aligned}1 \text{ cm} + 2 \text{ cm} + 4 \text{ cm} + 1 \text{ cm} + 4 \text{ cm} + 2 \text{ cm} + 1 \text{ cm} \\+ 5 \text{ cm} = 20 \text{ cm}\end{aligned}$$

Multiple Choice Questions MCQs

1. The perimeter of a triangle whose sides are 5 cm, 6 cm and 7 cm.

Perimeter of triangle = Sum of all sides

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

2. The area of a square whose sides are 15 m each

Area of a square = sides × side

$$= 15 \text{ m} \times 15 \text{ m}$$

$$= 225 \text{ m}^2 \text{ or } 225 \text{ sqm}$$

3. The area of a rectangle is 2 sqm and its length is 2 m, breadth = ?

Let the Breadth be x

Area of a rectangle = 2 (length + breadth)

$$2 = 2(2+x)$$

$$\frac{2}{2} = 2+x$$

$$1 = 2+x$$

$$x = (1-2) = -1 \text{ m}$$

$$x = 100 \text{ cm}$$

Practice Exercise 14.1

1. (a) 20 (b) 5 (c) 10 (d) 1 (e) 2 2. (a) 10 (b) 5

Practice Exercise 14.2

1. (a) Twenty-eight rupees twenty five paise. (b) Two hundred thirty-five rupees eight paise. (c) Eight hundred twenty-five rupees twenty paise. (d) Forty-eight rupees thirty five paise. (e) One hundred sixty-seven rupees five paise. (f) One thousand three hundred sixty rupees seventy five paise. 2. (a) ₹ 35.05 (b) ₹ 420.45 (c) ₹ 50.00

Practice Exercise 14.3

1. (a) ₹ 16.00 we know ₹ 1 = 100 paise.

$$\text{So, ₹ } 16 = 16 \times 100 \text{ p} = 1600 \text{ paise}$$

$$(b) ₹ 32.50 = 32.50 \times 100 \text{ P} = 3250 \text{ paise}$$

$$(c) ₹ 68.35 = 68.35 \times 100 \text{ P} = 6835 \text{ paise}$$

$$(d) ₹ 130.00 = 130.00 \times 100 \text{ P} = 13000 \text{ paise}$$

$$(e) ₹ 125.25 = 125.25 \times 100 \text{ P} = 12525 \text{ paise}$$

$$(f) ₹ 475.75 = 475.75 \times 100 \text{ P} = 47575 \text{ paise}$$

$$(g) ₹ 715.25 = 715.25 \times 100 \text{ P} = 71525 \text{ paise}$$

$$(h) ₹ 1275.05 = 1275.05 \times 100 \text{ P} = 127505 \text{ paise}$$

2. (a) 136 P We know 100 P = 1 ₹

$$136 \text{ P} = 136 \div 100 = ₹ 1.36$$

$$(b) 3900 \text{ P} = 3900 \div 100 = ₹ 39.00$$

$$(c) 2650 \text{ P} = 2650 \div 100 = ₹ 26.50$$

$$(d) 3550 \text{ P} = 3550 \div 100 = ₹ 35.50$$

$$(e) 27 \text{ rupees } 50 \text{ paise} = 27 + (50 \div 100) \\ = ₹ 27.50$$

$$(f) 75 \text{ rupees } 85 \text{ paise} = 75 + (85 \div 100) \\ = ₹ 75.85$$

Practice Exercise 14.4

1. (a) ₹ 26.30 and 30.50

$$\begin{array}{r} \text{₹ } 2 \ 6 \ . \ 3 \ 0 \\ + \text{₹ } 3 \ 0 \ . \ 5 \ 0 \\ \hline \text{₹ } 5 \ 6 \ . \ 8 \ 0 \end{array}$$

1

- (b) ₹ 18.25 and 35.50

$$\begin{array}{r} \text{₹ } 1 \ 8 \ . \ 2 \ 5 \\ + \text{₹ } 3 \ 5 \ . \ 5 \ 0 \\ \hline \text{₹ } 5 \ 3 \ . \ 7 \ 5 \end{array}$$

1 1

- (c) ₹ 44.50 and 58.50

$$\begin{array}{r} \text{₹ } 4 \ 4 \ . \ 5 \ 0 \\ + \text{₹ } 5 \ 8 \ . \ 5 \ 0 \\ \hline \text{₹ } 1 \ 0 \ 3 \ . \ 0 \ 0 \end{array}$$

1

(d) ₹ 605.30 and 36.50

$$\begin{array}{r}
 \text{₹} 6 \ 0 \ 5 . \ 3 \ 0 \\
 + \text{₹} \ 3 \ 6 . \ 5 \ 0 \\
 \hline
 \text{₹} 6 \ 4 \ 1 . \ 8 \ 0
 \end{array}$$

1

(e) ₹ 274.00 and 84.50

$$\begin{array}{r}
 \text{₹} 2 \ 7 \ 4 . \ 0 \ 0 \\
 + \text{₹} \ 8 \ 4 . \ 5 \ 0 \\
 \hline
 \text{₹} 3 \ 5 \ 8 . \ 5 \ 0
 \end{array}$$

1 1

(f) ₹ 205.45 and 297.50

$$\begin{array}{r}
 \text{₹} 2 \ 0 \ 5 . \ 4 \ 5 \\
 + \text{₹} 2 \ 9 \ 7 . \ 5 \ 0 \\
 \hline
 \text{₹} 5 \ 0 \ 2 . \ 9 \ 5
 \end{array}$$

2. Subtract

(a) ₹ 25.50 from 55.75

$$\begin{array}{r}
 \text{₹} 5 \ 5 . \ 7 \ 5 \\
 - \text{₹} 2 \ 5 . \ 5 \ 0 \\
 \hline
 \text{₹} 3 \ 0 . \ 2 \ 5
 \end{array}$$

2 10

(b) ₹ 18.50 from 30.50

$$\begin{array}{r}
 \text{₹} 3 \ 0 . \ 5 \ 0 \\
 - \text{₹} 1 \ 8 . \ 5 \ 0 \\
 \hline
 \text{₹} 1 \ 2 . \ 0 \ 0
 \end{array}$$

7 9 9 10

(c) ₹ 245.25 from 280.00

$$\begin{array}{r}
 \text{₹} 2 \ 8 \ 0 . \ 0 \ 0 \\
 - \text{₹} 2 \ 4 \ 5 . \ 2 \ 5 \\
 \hline
 \text{₹} 3 \ 4 . \ 7 \ 5
 \end{array}$$

4 12

(d) ₹ 332.55 from 385.25

$$\begin{array}{r}
 \text{₹} 3 \ 8 \ 5 . \ 2 \ 5 \\
 - \text{₹} 3 \ 3 \ 2 . \ 5 \ 5 \\
 \hline
 \text{₹} 5 \ 2 . \ 7 \ 0
 \end{array}$$

3 9 9 10

(e) ₹ 260.90 from 400.00

$$\begin{array}{r}
 \text{₹} 4 \ 0 \ 0 . \ 0 \ 0 \\
 - \text{₹} 2 \ 6 \ 0 . \ 9 \ 0 \\
 \hline
 \text{₹} 1 \ 3 \ 9 . \ 1 \ 0
 \end{array}$$

4 13

(f) ₹ 360.50 from 475.30

$$\begin{array}{r}
 \text{₹} 4 \ 7 \ 5 . \ 3 \ 0 \\
 - \text{₹} 3 \ 6 \ 0 . \ 5 \ 0 \\
 \hline
 \text{₹} 1 \ 1 \ 4 . \ 8 \ 0
 \end{array}$$

1 1

$$\begin{array}{rcl}
 3. \text{ Raju bought a cake} & = & ₹ 6 \ 5 . \ 5 \ 0 \\
 \text{Raju bought a cold drink} & = & ₹ 4 \ 3 . \ 7 \ 5 \\
 \text{Raju bought a sweets} & = & + ₹ 2 \ 3 . \ 3 \ 0 \\
 \text{Total money spend by Raju} & = & \underline{\underline{1 \ 3 \ 2 . \ 5 \ 5}} \\
 & & \boxed{6} \ \boxed{13} \ \boxed{10}
 \end{array}$$

$$\begin{array}{rcl}
 4. ₹ 160.00 - ₹ 85.50 & & ₹ 1 \ 7 \ 4 . \ 0 \ 0 \\
 & - & ₹ 3 \ 5 . \ 5 \ 0 \\
 & & \underline{\underline{₹ 1 \ 3 \ 8 . \ 5 \ 0}}
 \end{array}$$

1 1

$$\begin{array}{rcl}
 5. \text{ Seema spent} & = & ₹ 2 \ 7 \ 4 . \ 5 \ 0 \text{ for book} \\
 \text{Seema spent} & = & + ₹ 3 \ 3 . \ 7 \ 5 \text{ for note book} \\
 \text{Total amount spent by seema} & = & \underline{\underline{₹ 3 \ 0 \ 8 . \ 2 \ 5}} \\
 & & \boxed{4} \ \boxed{9} \ \boxed{9} \ \boxed{9} \ \boxed{10}
 \end{array}$$

$$\begin{array}{rcl}
 \text{Seema had Amount} & = & ₹ 5 \ 0 \ 0 . \ 0 \ 0 \\
 & = & - ₹ 3 \ 0 \ 8 . \ 2 \ 5 \\
 \text{Amount left} & = & \underline{\underline{₹ 1 \ 9 \ 1 . \ 7 \ 5}}
 \end{array}$$

Practice Exercise 14.5

- One pair of socks costs $= ₹ 25.70$
5 pairs of socks cost $= ₹ 25.70 \times 5$
 $= ₹ 128.50$
- The cost of one pen $= ₹ 17.75$
The cost of 4 pens $= ₹ 71.75 \times 4$
 $= ₹ 71$
Jhara gave the shopkeeper $= ₹ 50$
Amount of 4 pens $= ₹ 71$
 $₹ 71 - ₹ 50 = ₹ 21$
So, Jhara have to pay the shopkeeper ₹ 21
- The cost of 1 kg laddoos $= ₹ 90$
The cost of 3.5 kg laddoos $= ₹ 90 \times 3.5$
 $= ₹ 315$
- The cost of 7 tickets $= ₹ 190.75$
The cost of 1 ticket $= ₹ 190.75 \div 7$
 $= ₹ 27.25$
- The cost of 1 kg mustard oil $= ₹ 95$
The cost of 5 kg 400 gm mustard oil $= ₹ 95 \times 5.4$
 $= ₹ 513$

$$\begin{aligned}
 6. \text{ The cost of one ball} &= ₹ 19.20 \\
 \text{The cost of 11 ball} &= ₹ 19.20 \times 11 \\
 &= ₹ 211.20
 \end{aligned}$$

Mental math zone

1.	In words	In figures
a.	Fifteen rupees and forty paise	15.40
b.	Sixty-five rupees seventy paise	65.70
c.	Thirty nine rupees seventy five paise	39.75
d.	Four hundred forty three rupees eighty paise	443.80

2. (a) 1625 (b) 31200 P (c) 21140 P (d) ₹ 2.15 (e) ₹ 4.45 (f) ₹ 24.25

3. (a) ₹ 5.15 (b) ₹ 2.25 (c) ₹ 101.73 (d) ₹ 7.15 (e) ₹ 386.82 (f) ₹ 312.20 4. ₹ 10

Multiple Choice Questions MCQs

1. ₹ 100 2. ₹ 4.5 3. ₹ 179.50 4. ₹ 985.50 5. ₹ 15550

Practice Exercise 15.1

1. (a) 40 ice-creams (b) 30 ice-creams (c) Sunday (d) Tuesday (e) 210 ice-creams

2.	Items	Number	Tally Marks
	Maggi	7	
	Cold drnik	9	
	Chocolate	13	
	Frooti	11	
	Jelly	17	

Practice Exercise 15.2

1. (a) Friday (b) Wednesday (c) 10,000 bicycles (d) 1,70,000 bicycles

2. (a) The graph conveys the information relation to the number of students attending computer practices on different days a week.
 (b) Thursday (c) Saturday (d) 1850 students. 3. (a) 30 crores (b) 20 crores (c) 70 crores (d) Graph shows the population of India during different decades. 4. (a) Ananya 700 points (b) 300 points (c) Sameer (d) 1100 points 5. (a) Mobile phone (b) World space station and DvD player (c) Mobile Phone (d) Radio

Practice Exercise 16.1

1. 45 min past 2 (b) 15 min past 1 (c) 39 min past 3 (d) 17 min past

4 (e) 48 min past 5 (f) 35 min past 10 (g) 30 min past 11 (h) 25 min past 12 (i) 15 min past 3 (j) 35 min past 4

- 2.** (a) 35 min past 4 (b) 52 min past 3 (c) 48 min past 5 (d) 50 min past 8 (e) 55 minutes to 7 (f) 50 min past 11

3. (a)



1:45

(b)



3:15

(c)



6:12

(d)



7:18

4. (a)



8:12

(b)



6:50

(c)



7:32

(d)



12:10

(e)



10:35

(f)



5:07

(g)



4:15

(h)



1:45

Practice Exercise 16.2

- 1.** (a) Abhinav wakes up at 5:30 a.m (b) He cleans his teeth at 5:45 a.m (c) He comes back from school at 2:00 p.m (d) He watches TV at 5:15 p.m (e) He goes to bed at 9:30 p.m. (f) He goes to play at 5:45 p.m **2.** (a) 5:45 p.m (b) 2:10 p.m. (c) 6:20 a.m. (d) 11:15 p.m. (e) 12:05 a.m. (f) 3:25 a.m. **3.** (a) 8:30 p.m (b) 12:15 p.m (c) 7:15 p.m (d) 3:30 p.m (e) 12:45 a.m (f) 7:15 p.m

Practice Exercise 16.3

$$1. \text{ A football match ended at } = 1 \ 3 : 4 \ 5 \text{ p.m}$$

$$\text{A football match started at } = - 1 \ 1 : 3 \ 0 \text{ a.m}$$

$$\text{How long did the match last } = \underline{\underline{2 : 1 \ 5}} \text{ hours}$$

So, = 2 hours 15 min.

$$2. \text{ Rita and Somya stopped their music practice } = 10 : 4 \ 0 \text{ a.m}$$

$$\text{Rita and Somya started their music practice } = \underline{- 7 : 5} \ 0 \text{ a.m}$$

$$\text{How long did they practice } = \underline{\underline{2 : 5 \ 0}}$$

So, = 2 hours 50 min.

$$3. \text{ Sumit over the yoga } = 10 : 0 \ 0 \text{ a.m}$$

$$\text{Sumit started the yoga } = \underline{- 8 : 1} \ 5 \text{ a.m}$$

$$\text{How long did the yoga last } = \underline{\underline{1 : 4 \ 5 \text{ m}}}$$

So, = 1 hour 45 min

$$4. \text{ A city bus reached the destination } = 11 : 3 \ 0 \text{ p.m}$$

$$\text{A city bus started to move } = \underline{- 5 : 0} \ 0 \text{ p.m}$$

$$\text{How long did the bus move } = \underline{\underline{6 : 3 \ 0 \text{ hours}}}$$

So, = 6 hours 30 min

5. Megha started reading a book at
Megha read for 2 hours 30 minutes
Megha stop reading 2:10 p.m
So = 3 hours 10 minutes

$$\begin{array}{r}
 = 12 : 4 \text{ 0 a.m} \\
 = + 2 : 3 0 \\
 \hline
 3 : 1 \text{ 0 p.m}
 \end{array}$$

6. Rohit ended playing basketball
Rohit started playing basketball

$$\begin{aligned}
 &= 8 : 30 \text{ p.m} \\
 &= -6 : 40 \text{ p.m} \\
 &= 1 : 50 \text{ hours}
 \end{aligned}$$

Rohit play 1 hours 50 minutes

7. Do yourself

8. Delhi Amritsar intercity express reached Amritsar = 1 : 30 p.m
Delhi Amritsar intercity express left Delhi = 6 : 45 a.m
the duration of its Journey = 13 : 30 p.m

Practice Exercise 16.4

- 1.** (a) 1:45:55 (b) 2:10:05 (c) 3:30:55 (d) 12:45:30 (e) 3:10:5 (f) 9:25:5 **2.** (a) 6:5:20 (b) 9:12:20 (c) 11:10:10 (d) 3:15:25 (e) 7:15:16 (f) 10:7:45

Practice Exercise 16.5

- 1.** (a) 180 minutes (b) 43200 second (c) 600 seconds (d) 6 hours (e) 2 minutes (f) 15 minutes **2.** (a) 744 min (b) 316 min (c) 2106 min (d) 900 min (e) 2455 min (f) 1341 min (g) 3600 min (h) 1216 min (i) 1059 min **3.** (a) 1200 seconds (b) 900 seconds (c) 1020 seconds (d) 1500 seconds (e) 8640 seconds (f) 15180 seconds (g) 11700 seconds (h) 58800 seconds (i) 44280 seconds.

4. (a) 760 min →

5 hrs 40 min	$ \begin{array}{r} 60)760(5 \\ \underline{-60} \\ \hline 160 \\ \underline{-120} \\ \hline 40 \end{array} $	<p style="margin-left: 20px;">← Quotient (hours)</p> <p style="margin-left: 20px;">← Remainder (minutes)</p>
--------------	---	--

(b) 640 min →

$$\begin{array}{r} \text{(b) } 640 \text{ min} \rightarrow \\ \overline{60)6\ 4\ 0(10} \\ \underline{-60\ 0} \\ \quad \quad 4\ 0 \end{array} \begin{array}{l} \text{Quotient (hours)} \\ \text{←} \\ \text{Remainder (minutes)} \end{array}$$

10 hrs 40 min.

(c) 280 min →
4 hrs 40 min

$$\begin{array}{r} 60) \overline{280} (4 \\ \underline{-240} \\ \underline{\quad\quad0} \end{array}$$

← Quotient (hours)
← Remainder (minutes)

(d) 360 min →

$$\begin{array}{r} 60 \overline{)3\ 6\ 0} (6 \\ \underline{-3\ 6\ 0} \\ \hline 0 \end{array}$$

6 hours 0 min.

← Quotient (hours)
← Remainder (minutes)

(e) 320 min →

$$\begin{array}{r} 60 \overline{)3\ 2\ 0} (12 \\ \underline{-3\ 0\ 0} \\ \hline 2\ 0 \end{array}$$

12 hrs 20 min

← Quotient (hours)
← Remainder (minutes)

(f) 170 min →

$$\begin{array}{r} 60 \overline{)1\ 7\ 0} (2 \\ \underline{-1\ 2\ 0} \\ \hline 5\ 0 \end{array}$$

← hours = Quotient
← minutes = Remainder

Practice Exercise 16.6

1. (a) 1:00 hours (b) 3:15 hours (c) 4:42 hours (d) 17:15 hours (e) 18:45 hours (f) 15:05 hours 2. (a) 8:30 a.m (b) 12:35 a.m (c) 8:41 a.m (d) 11:58 a.m (e) 3:42 a.m (f) 7:22 a.m

Practice Exercise 16.7

1. (a)

$\boxed{1}$	$\boxed{1}$	$\boxed{1}$	$\boxed{1}$	$\boxed{1}$	
1	2	2	0	1	5
1	3	4	5	4	5
+	5	2	4	3	0
<hr/>					
3	1	3	0	3	0

(b)

$\boxed{1}$	$\boxed{1}$	$\boxed{1}$			
5	5	0	4	5	
4	3	5	5	5	
+	3	2	0	1	8
<hr/>					
1	3	4	6	5	8

(c)

$\boxed{1}$	$\boxed{1}$	$\boxed{1}$	$\boxed{1}$		
1	2	2	0	1	5
7	4	5	2	5	
+	4	3	0	3	0
<hr/>					
2	4	3	6	1	0

2. (a)

8	1	6	2	4	
-	3	0	5	1	4
<hr/>					
5	1	1	1	0	

(b)

1	5	5	6	4	5
-	3	2	3	1	3
<hr/>					
1	2	3	3	3	2

(c)	<table border="1"> <tbody> <tr><td>1</td><td>5</td><td></td><td>8</td><td>0</td></tr> <tr><td>1</td><td>6</td><td></td><td>2</td><td>0</td></tr> <tr><td>1</td><td>6</td><td></td><td>9</td><td>7</td></tr> <tr><td>-</td><td>1</td><td>4</td><td>3</td><td>7</td></tr> <tr><td></td><td>1</td><td>4</td><td>3</td><td>8</td></tr> <tr><td></td><td>1</td><td>4</td><td>2</td><td>5</td></tr> <tr><td></td><td>1</td><td>4</td><td>2</td><td>4</td></tr> <tr><td></td><td>1</td><td>4</td><td>2</td><td>4</td></tr> <tr><td></td><td>1</td><td>4</td><td>2</td><td>4</td></tr> <tr><td></td><td>1</td><td>4</td><td>2</td><td>4</td></tr> </tbody> </table>	1	5		8	0	1	6		2	0	1	6		9	7	-	1	4	3	7		1	4	3	8		1	4	2	5		1	4	2	4		1	4	2	4		1	4	2	4		1	4	2	4
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2	7	0													
3	1	0													
+	1	4	0												
	1	3	0												

1

4. Radha and Richa spent time in movie =

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$

Radha and Richa spent time in shopping

$$\begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array}$$

Total time taken by them =

$$\begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array}$$

So, Radha and Richa spent total time 4 hrs 15 min

Practice Exercise 16.8

1. (a) 7, (b) 12, (c) 366 (d) 29 (e) 28 (f) Do yourself

Mental math zone

1. (a) 2 hours after 5 : 50 p.m. $\rightarrow 5 : 50 + 2 : 00 = 7 : 50$ p.m
 (b) 3 hours 20 minutes before 3 p.m. $3 : 00$ p.m $\rightarrow 15 : 00 - 3 : 20 = 11 : 40$ a.m
 2. (a) 15 minutes $\rightarrow 15 \times 60$ seconds = 900 seconds
 (b) 3 hours $\rightarrow 3 \times 60 \times 60 = 108$ seconds.
 (c) 10 minutes $\rightarrow 10 \times 60 = 600$ seconds

3. (a) 180 minutes \rightarrow

3 hours 0 minutes	$60) \overline{1 \ 8 \ 0} (3$ $\underline{1 \ 8 \ 0}$ \times	← Quotient (hours) ← Remainder (minutes)
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(b) 1250 minutes \rightarrow

20 hours 50 minutes	$60) \overline{1 \ 2 \ 5 \ 0} (20$ $\underline{1 \ 2 \ 0}$ $ 5 \ 0$	← Quotient (hours) ← Remainder (minutes)
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4. (a) 485 seconds \rightarrow

8 minutes 5 seconds	$60) \overline{4 \ 8 \ 5} (8$ $\underline{4 \ 8 \ 0}$ $ 5$	← Quotient (minutes) ← Remainder (seconds)
---------------------	---	---

(b) 1650 seconds →

$$\begin{array}{r} 60) 1 \ 6 \ 5 \ 0 (25 \\ 1 \ 2 \ 0 \\ \hline 3 \ 5 \ 0 \\ 3 \ 0 \ 0 \\ \hline 5 \ 0 \end{array}$$

← Quotient (minutes)

← Remainder (seconds)

25 minutes 50 seconds

5. (a) $4 : 00 \text{ pm} = 4 : 00 + 12 : 00 = 16 : 00 \text{ hours}$

(b) $7 : 30 \text{ a.m.} = 7 : 30 \text{ hours}$

6. (a) $9 : 45 \text{ hours} = 9 : 45 \text{ a.m}$ (b) $16 : 20 \text{ hours} = 16 : 20 - 12 : 00 = 4 : 20 \text{ p.m}$

Multiple Choice Questions MCQs

1. 12:49 2. 17:33 hours 3. 9:22 p.m 4. 1 hr 53 minutes

Practice Exercise 17.1

1. (a) $60 \text{ m} = 60 \times 100\text{cm} = 6000 \text{ cm}$ (b) $3 \text{ m } 36 \text{ cm} = (3 \times 100 + 36) \text{ cm} = 336 \text{ cm}$ (c) $75 \text{ m } 42 \text{ cm} = (75 \times 100 + 42) \text{ cm} = (7500 + 42) \text{ cm} = 7542 \text{ cm}$

2. (a) $1600 \text{ cm} = 1600 \div 100 = 16 \text{ m.}$ (b) $3813 \text{ cm} = 3813 \div 100 = 38 \text{ m } 13 \text{ cm}$ (c) $462 \text{ cm} = 462 \div 100 = 4 \text{ m } 62 \text{ cm}$

Practice Exercise 17.2

Do yourself

Practice Exercise 17.3

Note : Just remove the word ‘km’ and you will get the answer.

1. (a) $3 \text{ km } 262 \text{ m} = 3262 \text{ m}$ (b) $2 \text{ km } 501 \text{ m} = 2501 \text{ m}$ (c) $15 \text{ km } 273 \text{ m} = 15273 \text{ m}$ (d) $45 \text{ km } 999 \text{ m} = 45999 \text{ m}$ (e) $16 \text{ km } 100 \text{ m} = 16100 \text{ m.}$

Note : make last 3 digits as ‘m’ and rest as km.

2. (a) $3,662 \text{ m} = 3 \text{ km } 662 \text{ m}$ (b) $11,743 \text{ m} = 11 \text{ km } 743 \text{ m}$ (c) $5,603 \text{ m} = 5 \text{ km } 603 \text{ m}$ (d) $23,789 \text{ m} = 23 \text{ km } 789 \text{ m}$ (e) $12,608 \text{ m} = 12 \text{ km } 608 \text{ m.}$

3. (We know that $1 \text{ km} = 1000\text{m}$) (a) $18\text{km} = 18 \times 1000\text{m} = 18000\text{m}$
(b) $15\text{km } 320\text{m} = (15 \times 1000\text{m} + 320\text{m}) = (15000 + 320)\text{m} = 15320\text{m}$
(c) $15\text{km } 400\text{m} = (15 \times 1000\text{m} + 400\text{m}) = (15000 + 400)\text{m} = 15400\text{m}$
(d) $24\text{km } 507\text{m} = (24 \times 1000\text{m} + 507)\text{m} = (24000 + 507)\text{m} = 24507\text{m}$
(e) $16\text{km } 802\text{m} = (16 \times 1000 + 802)\text{m} = (16000 + 802)\text{m} = 16802\text{m}$
(f) $35\text{km } 739\text{m} = (35 \times 1000 + 739)\text{m} = (35000 + 739)\text{m} = 35739\text{m}$

4. (a) $3000\text{m} = 3000 \div 1000 = 3\text{km}$ (b) $2362\text{m} = 2362 \div 1000 = 2\text{ km } 362\text{m}$ (c) $26,149 = 26,419 \div 1000 = 26\text{km } 419\text{m}$ (d) $11,440\text{m} = 11440 \div 1000 = 11\text{km } 440\text{m}$ (e) $36,969 = 36969 \div 1000 = 36\text{km } 969\text{m}$ (f) $54842\text{m} = 54842 \div 1000 = 54\text{km } 842\text{m}$

Practice Exercise 17.4

<p>1. (a)</p> <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td>4</td><td>2</td><td>7</td><td>3</td><td>3</td></tr> <tr><td>+ 2</td><td>3</td><td>2</td><td>4</td><td>6</td></tr> <tr><td colspan="5"><hr/></td></tr> <tr><td>6</td><td>5</td><td>9</td><td>7</td><td>9</td></tr> </table>	4	2	7	3	3	+ 2	3	2	4	6	<hr/>					6	5	9	7	9	<p>(b)</p> <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td>1</td><td>1</td></tr> <tr><td>4</td><td>7</td><td>3</td><td>2</td><td>4</td></tr> <tr><td>+ 2</td><td>1</td><td>8</td><td>6</td><td>8</td></tr> <tr><td colspan="5"><hr/></td></tr> <tr><td>6</td><td>9</td><td>1</td><td>9</td><td>2</td></tr> </table>	1	1	4	7	3	2	4	+ 2	1	8	6	8	<hr/>					6	9	1	9	2	<p>(c)</p> <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>3</td><td>4</td><td>8</td><td>7</td><td>6</td></tr> <tr><td>+ 2</td><td>5</td><td>8</td><td>5</td><td>4</td></tr> <tr><td colspan="5"><hr/></td></tr> <tr><td>6</td><td>0</td><td>7</td><td>3</td><td>0</td></tr> </table>	1	1	1	1	3	4	8	7	6	+ 2	5	8	5	4	<hr/>					6	0	7	3	0				
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Practice Exercise 17.5

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(e)

2	1	3
7	4	2
		5
× 7		
5	1	9
7	5	

(f)

2	4	1
3	2	6
		2
× 8		
2	6	0
9	6	

2. (a) 86 km 242 m by 2 (b) 45 km 825 m by 3 (c) 85 km 825 m by 5

$$\begin{array}{r} 43 & 121 \\ \times 2 & \times 2 \\ \hline 86 & 242 \\ -8 & -2 \\ \hline 6 & 2 \\ -6 & \\ \hline 2 & \\ -2 & \\ \hline 4 & \\ -4 & \\ \hline 0 & \\ \hline \end{array}$$

43 km 121 m

$$\begin{array}{r} 15 & 275 \\ \times 3 & \times 3 \\ \hline 45 & 825 \\ -3 & -15 \\ \hline 15 & 8 \\ -15 & \\ \hline 8 & \\ -6 & \\ \hline 22 & \\ -21 & \\ \hline 15 & \\ -15 & \\ \hline 0 & \\ \hline \end{array}$$

15 km 275 m

$$\begin{array}{r} 17 & 165 \\ \times 5 & \times 5 \\ \hline 85 & 825 \\ -5 & -35 \\ \hline 35 & 8 \\ -35 & \\ \hline 8 & \\ -5 & \\ \hline 32 & \\ -30 & \\ \hline 25 & \\ \hline \end{array}$$

17 km 165 m

(d) 95 m 84 cm by 4

$$\begin{array}{r} 23 & 96 \\ \times 4 & \times 4 \\ \hline 95 & 84 \\ -8 & -4 \\ \hline 15 & \\ -12 & \\ \hline 38 & \\ -36 & \\ \hline 24 & \\ -24 & \\ \hline 0 & \\ \hline \end{array}$$

23 km 96 m

(e) 63 m 35 cm by 7 (f) 81 m 15 cm by 9

$$\begin{array}{r} 9 & 05 \\ \times 7 & \times 9 \\ \hline 63 & 35 \\ -63 & \\ \hline 35 & \\ -35 & \\ \hline 0 & \\ \hline \end{array}$$

9 km 05 m

$$\begin{array}{r} 9 & 02 \\ \times 9 & \times 9 \\ \hline 81 & 18 \\ -81 & \\ \hline 18 & \\ -18 & \\ \hline 0 & \\ \hline \end{array}$$

9 km 02 m

3. The distance between Delhi and Nainital = 4 6 6 km 2 3 0 m

I covered distance = - 2 3 0 km 8 3 1 m

Distance left = 2 3 5 km 3 9 9 m

So, 235 km 399 m distance is left.

5 11 2 10

4. Grand mother needs yellow colour yarn = 3 2 4 m 2 3 cm

Grand mother needs red colour yarn = - 1 7 9 m 8 4 m

Total length of yarn = 5 0 4 m 0 7 cm

So the total length of yarn is 504 m 07 cm

1 1 1

1 2

5. One string length = 7 m 2 4 cm

Grand mother needs red colour yarn = $\times 7$

7 string length = 5 0 m 6 8 cm

So, Reena needs ribbon lenght 50 m 68 cm.

6. Mr. Oberoi purchased silk cloth = 100 m

Mr Oberoi make 10 curtains of silk cloth = $100 \text{ m} \div 10$
= 10 m

So, the lenght of each curtain is 10 m.

Practice Exercise 17.6

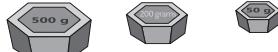
1. Convert kg to g : (We know 1 kg = 1000 gm)

(a) $21 \text{ kg} = 21 \times 1000 = 21000 \text{ g}$ (b) $2 \text{ kg } 417\text{g} = 2 \times 1000 \text{ g} + 417 \text{ g}$
 $= 2000 \text{ g} + 417 \text{ g} = 2417 \text{ g}$ (c) $25 \text{ kg } 623\text{g} = 25 \times 1000 \text{ g} + 623 \text{ g}$
 $= 25000 \text{ g} + 623 \text{ g} = 25623 \text{ g}$

2. Convert g to kg.

(a) $11,000 \text{ g} = 11000 \div 1000 = 11 \text{ kg}$
(b) $3,6419 \text{ g} = 36419 \div 1000 = 36 \text{ kg } 419 \text{ g.}$
(c) $16,572 \text{ g} = 16572 \div 1000 = 16 \text{ kg } 572 \text{ g}$

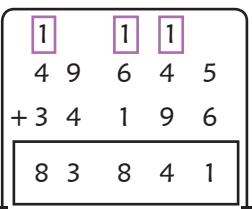
Practice Exercise 17.7

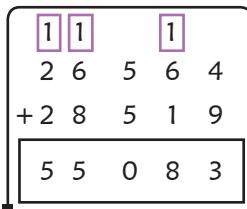
1. (a)  = 750 g

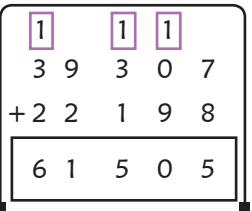
(b)  = 450 g

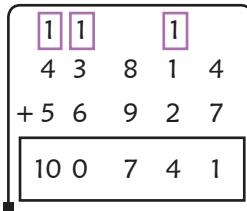
(c)  = 1550 g

(d)  = 800 g

2. (a) 

(b) 

(c) 

(d) 

(e)

1	1	1		
6	8	3	8	5
+ 2	8	9	6	4
9 7 3 4 9				

(f)

1	1	1	1	
3	4	9	5	6
+ 2	7	2	6	8
6 2 2 2 4				

3. (a)

7	14	2	17	
8	4	3	7	5
- 3	5	1	9	3
4 9 1 8 2				

 (b)

8	16	4	8	14
9	6	4	9	4
- 6	9	3	8	7
2 7 1 0 7				

 (c)

4	15	8	15	13
5	5	9	6	3
- 1	9	1	8	5
3 6 7 7 8				

(d)

5	13	18	5	12
6	4	8	6	2
- 2	6	9	4	3
3 7 9 1 9				

 (e)

7	12	15	10	
8	3	6	0	5
- 4	5	8	1	3
3 7 7 9 2				

 (f)

8	17	17	12	12
9	8	8	3	2
- 7	9	9	4	5
1 8 8 8 7				

Practice Exercise 17.8

1. (a)

8	1	3	3
x 2			
1 6 2 6 6			

 (b)

1	1		
8	6	4	3
x 3			
2 5 9 2 9			

 (c)

4	1		
5	8	0	2
x 5			
2 9 0 1 0			

(d)

3	3	3	0	1
x 2				
6 6 6 0 2				

 (e)

2				
2	2	8	3	1
x 3				
6 8 4 9 3				

 (f)

1	3	2		
4	0	2	6	5
x 5				
201 3 2 5				

2. (a) 24 kg 485 g by 5 (b) 40 kg 864 by 4 (c) 64 kg 896 g by 8

$$\begin{array}{r} 4 & 897 \\ \overline{)2} & 4 \quad 4 \quad 8 \quad 5 \\ -2 & 0 \\ \downarrow \\ 4 & 4 \\ -4 & 0 \\ \downarrow \\ 4 & 8 \\ -4 & 5 \\ \hline 3 & 5 \\ -3 & 5 \\ \hline \end{array}$$

4 kg 897 g

$$\begin{array}{r} 10 & 216 \\ \overline{)4} & 0 \quad 8 \quad 6 \quad 4 \\ -4 & 0 \\ \downarrow \\ 8 \\ -8 \\ \hline 6 \\ -4 \\ \hline 2 & 4 \\ -2 & 4 \\ \hline \end{array}$$

10 kg 216 g

$$\begin{array}{r} 8 & 112 \\ \overline{)6} & 4 \quad 8 \quad 9 \quad 6 \\ -6 & 4 \\ \downarrow \\ 8 \\ -8 \\ \hline 9 \\ -8 \\ \hline 1 & 6 \\ -1 & 6 \\ \hline \end{array}$$

8 kg 112 g

$$\begin{array}{r}
 \text{(e) } 2 \text{ kg } 486 \text{ g by } 2 \\
 \begin{array}{r}
 \begin{array}{r}
 \overbrace{2}^1 & 2 & 4 & 8 & 6 \\
 -2 & & & & \\
 \hline
 & 4 & & & \\
 -4 & & & & \\
 \hline
 & 8 & & & \\
 -8 & & & & \\
 \hline
 & 6 & & & \\
 -6 & & & & \\
 \hline
 & & & & \times
 \end{array} \\
 1 \text{ kg } 243 \text{ g}
 \end{array}
 \end{array}$$

$$\begin{array}{r}
 \text{(f) } 32 \text{ kg } 781 \text{ g by } 7 \\
 \overline{)3\ 2\ 7\ 8\ 1} \\
 \underline{-2\ 8} \\
 \quad\quad\quad\downarrow \\
 \quad\quad\quad4\ 7 \\
 \underline{-4\ 2} \\
 \quad\quad\quad\downarrow \\
 \quad\quad\quad5\ 8 \\
 \underline{-5\ 6} \\
 \quad\quad\quad\downarrow \\
 \quad\quad\quad2\ 1 \\
 \underline{-2\ 1} \\
 \quad\quad\quad\times \\
 \hline
 4 \text{ kg } 683 \text{ g}
 \end{array}$$

$$3. \text{ Mrs Kapoor had maida} = 2 \text{ kg} = 2000 \text{ g.}$$

She put into smaller packet of . 500 g each

$$\text{How many packets will we need} = 2000 \text{ g} \div 500 = 4$$

So, she need 4 packets.

4. A bag contains fruits = 7 kg 900 g

A bag contains orange = - 4 kg 200 g

$$\text{Rest fruits weights} = \underline{\quad} \ 3 \text{ kg } 700 \text{ g}$$

So, apples weights is 3 kg 700 g.

5. • The total weight of all the

- In the case of onion and tomato in double quantity

$$\text{Onion} = 2 \times 200 \text{ g} = 400 \text{ g.}$$

$$\text{Tomato} = 2 \times 200 \text{ g} = 400 \text{ g}$$

Paneer = 300 g

Garlic = 20 g

Coriander = 50 g

Total weight = 1220 g

or $\equiv 1 \text{ kg } 220 \text{ g}$

6. Seema weighs \equiv 35 kg 209 g

Monika weighs $\equiv 27 \text{ kg } 365 \text{ g}$

2 14 11 10

Seema weighs more than Monika 3 5 2 0 9

$$\begin{array}{r}
 - 27365 \\
 \hline
 07844
 \end{array}$$

Seema weight 7 kg 844 g more than Monika.

Practice Exercise 17.9

- 1.** (a) 15000ml (b) 75000ml (c) 23420ml (d) 81604ml (e) 36042ml
 (f) 93500ml **2.** (a) $8l$ (b) $12l$ (c) $7l$ 645ml (d) $20l$ (e) $64l$ 621ml
 (f) $43l$ 849ml

Practice Exercise 17.10

1. (a)

1	1	
3 2	5 7	2
$+ 2 \quad 9$		
6 1	7 1	6

(b)

1	1	
2 9	8 4	5
$+ 2 \quad 6$		
5 6	1 9	8

(c)

1	1	
3 5	8 1	9
$+ 2 \quad 3$		
5 9	1 6	0

(d)

1	1	1
4 6	5 4	7
$+ 4 \quad 3$		
9 0	0 8	6

(e)

1	1	1	1
5 3	5 2	9	
$+ 1 \quad 7$			
7 1	2 2	7	

(f)

1	1	1	1
7 5	8 6	6	
$+ 2 \quad 6$			
10 2	8 1	1	

2. (a)

7	13	
8 3	6 5	8
$- 2 \quad 9$		
5 4	3 4	3

(b)

8	14	2	16
9 4	3 6	5	
$- 2 \quad 5$			
6 9	1 8	2	

(c)

7	14	13
8 5	3 0	5
$- 1 \quad 7$		
6 7	9 0	2

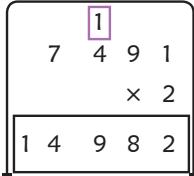
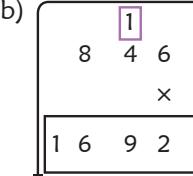
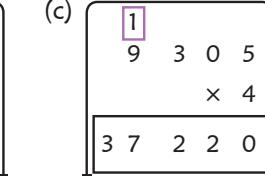
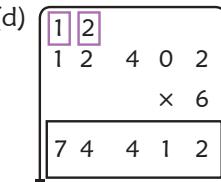
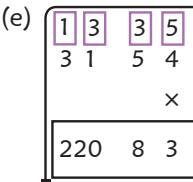
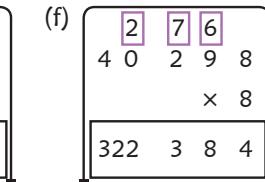
(d)

4	13	15
5 4	5 9	3
$- 2 \quad 5$		
2 8	8 1	1

6	17	14	13
7	8	5	3
- 3	9	6	5
3	8	8	5

5	14	16	17	12
6	5	7	8	2
- 4	6	9	9	3
1	8	7	8	9

Practice Exercise 17.11

1. (a)  (b)  (c) 
- (d)  (e)  (f) 

2. (a) 8 / 425 ml by 5 (b) 48 / 612 ml by 4 (c) 26 / 712 ml by 4

$$\begin{array}{r}
 & 1 & 681 \\
 5) & 8 & 4 & 2 & 5 \\
 & \underline{-} & 5 & & \\
 & 3 & 4 & & \\
 & \underline{-} & 3 & 0 & \\
 & 4 & 0 & & \\
 & \underline{-} & 4 & 0 & \\
 & & 5 & & \\
 & & \times & &
 \end{array}$$

1 / 681 ml

$$\begin{array}{r}
 & 12 & 153 \\
 4) & 4 & 8 & 6 & 1 & 2 \\
 & \underline{-} & 4 & & & \\
 & 8 & & & & \\
 & \underline{-} & 8 & & & \\
 & 6 & & & & \\
 & \underline{-} & 4 & & & \\
 & 2 & 1 & & & \\
 & \underline{-} & 2 & 0 & & \\
 & & 1 & 2 & & \\
 & & \times & & &
 \end{array}$$

$$\begin{array}{r}
 & 6 & 678 \\
 4) & 2 & 6 & 7 & 1 & 2 \\
 & \underline{-} & 2 & 4 & & \\
 & 2 & 7 & & & \\
 & \underline{-} & 2 & 4 & & \\
 & 3 & 1 & & & \\
 & \underline{-} & 2 & 8 & & \\
 & 3 & 2 & & & \\
 & \times & & & &
 \end{array}$$

6 / 678 ml

- (d) 33 / 719 ml by 7

$$\begin{array}{r}
 & 4 & 817 \\
 7) & 3 & 3 & 7 & 1 & 9 \\
 & \underline{-} & 2 & 8 & & \\
 & 5 & 7 & & & \\
 & \underline{-} & 5 & 6 & & \\
 & 1 & 1 & & & \\
 & \underline{-} & 7 & & & \\
 & 4 & 9 & & & \\
 & \underline{-} & 4 & 9 & & \\
 & & \times & & &
 \end{array}$$

4 / 817 ml

$$\begin{array}{r}
 & 12 & 153 \\
 3) & 9 & 3 & 2 & 7 \\
 & \underline{-} & 9 & & \\
 & 3 & & & \\
 & \underline{-} & 3 & & \\
 & 2 & 7 & & \\
 & \underline{-} & 2 & 7 & \\
 & & \times & &
 \end{array}$$

12 / 153 ml

- (f) 6 / 324 ml by 2

$$\begin{array}{r}
 & 3 & 162 \\
 2) & 6 & 3 & 2 & 4 \\
 & \underline{-} & 6 & & \\
 & 3 & & & \\
 & \underline{-} & 2 & & \\
 & 1 & 2 & & \\
 & \underline{-} & 1 & 2 & \\
 & 4 & & & \\
 & \times & & &
 \end{array}$$

3 / 162 m

3. $2\text{ l} = 2000\text{ ml}$
 glass = $2000 \div 250$
 glass = 8

So 8 glass fill with 2 l bottles of pepsi.

4. Tina has juice = 4 l = 4000 ml
 Tina put into 500 ml jugs = $4000 \div 500 = 8$
 So, 8 jugs will Tina need.

5. My mother bought milk in first day	=	6	1	2	5	0	ml
My mother bought milk in second day	=	2	1	3	6	0	ml
My mother bought milk in third day	=	+ 5	1	4	5	0	ml
Total milk buy in 3 days	=	14	1	0	6	0	

So, my mother buy milk in 3 day 14 l 60 ml

Mental math zone

1. (a) 600 cm (b) 900 cm

2. Do yourself.

3. The cost of 1 kg tomato = ₹ 18

The cost of 4 kg tomato = $\text{₹ } 18 \times 4 = \text{₹ } 72$

So, the cost of 4 kg tomatoes ₹ 72

4. The cost of 1 kg sugar = ₹ 40

The cost of 50 kg sugar = $\text{₹ } 40 \times 50 = \text{₹ } 2000$

So, the cost of 50 kg sugar ₹ 2000

5. How many 100 ml measures of water will fill 5 l measures.

$$5\text{ l} = 5000\text{ ml}$$

$$= 5000 \div 200 = 10$$

6. $5000\text{ ml} \div 100\text{ ml} = 50$

7. Somya had two 20 rupees notes = $2 \times 20 = \text{₹ } 40$

Somya had four 50 rupess notes = $4 \times 50 = + \text{₹ } 200$	= ₹ 240
	₹ 240

Total money she have = ₹ 240

Multiple Choice Questions (MCQs)

- 1.** 11 cm **2.** 1000 **3.** 13 l **4.** 72772 ml **5.** 366 mm

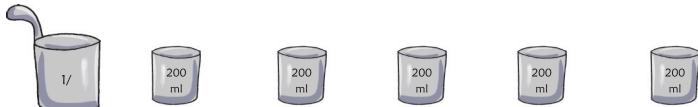
Activity Wizard



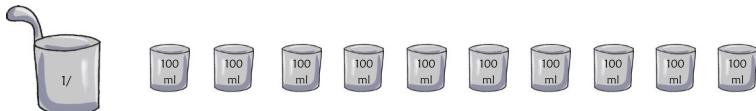
1 l can fill 2 glasses of 500 ml each.



1 l can fill 4 glasses of 250 ml each.



1 l can fill 5 glasses of 200 ml each.



1 l can fill 10 glasses of 100 ml each.

Model Test Paper-I

1. (a) $30,525 = 30,000 + 0 + 500 + 20 + 5$
(b) $24,840 = 20,000 + 4,000 + 800 + 40 + 0$
(c) $56,305 = 50,000 + 6,000 + 300 + 0 + 5$
(d) $34,616 = 30,000 + 4,000 + 600 + 10 + 6$
2. (a) $5,00,000 + 10,000 + 7,000 + 200 + 20 + 1 = 517221$
(b) $6,00,000 + 90,000 + 5,000 + 300 + 40 + 3 = 695343$
(c) $4,00,000 + 0 + 6,000 + 400 + 60 + 2 = 406462$
(d) $3,00,000 + 80,000 + 3,000 + 700 + 30 + 6 = 383736$
3. (a) $XC = 100 - 10 = 90$
(b) $XCII = (100 - 10) + 2 = 90 + 2 = 92$
(c) $XLV = (50 - 10) + 5 = 40 + 5 = 45$
(d) $XLIII = (50 - 10) + 3 = 40 + 3 = 43$
(e) $XCIX = (100 - 10) + 9 = 90 + 9 = 99$
(f) $CXX = 100 + 10 + 10 = 120$
4. (a) $17 + 1475 = 1475 + 17$
(b) $3885 + 3025 = 3025 + 3885$
(c) $2837 + 0 = 2837$
(d) $4982 + 2122 + 3243 = 4982 + 2122 + 3243$

5. (a)

4	13	12	13
5	5	4	3
- 2	4	5	8
3	0	8	4

- (f)

4	13	12	15
6	5	4	3
- 2	3	6	5
4	1	7	7

(c)	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td></td><td style="background-color: #e6eaf2;">6</td><td style="background-color: #e6eaf2;">15</td><td style="background-color: #e6eaf2;">16</td><td></td></tr> <tr> <td>7</td><td>9</td><td>7</td><td>6</td><td>6</td></tr> <tr> <td>- 4</td><td>3</td><td>4</td><td>7</td><td>9</td></tr> <tr> <td></td><td>3</td><td>6</td><td>2</td><td>8</td><td>7</td></tr> </table>		6	15	16		7	9	7	6	6	- 4	3	4	7	9		3	6	2	8	7
	6	15	16																			
7	9	7	6	6																		
- 4	3	4	7	9																		
	3	6	2	8	7																	

6. Anaya's scooty's cost

$$\begin{array}{r}
 = \text{₹ } 3 \boxed{1} 6 \boxed{9} \boxed{9} \boxed{1} 0 \\
 - \text{₹ } 2 \quad 8 \quad 1 \quad 2 \quad 1 \\
 \hline
 \text{₹ } 1 \quad 8 \quad 8 \quad 7 \quad 9
 \end{array}$$

She needed more than

$$= - \text{₹ } 2 \quad 8 \quad 1 \quad 2 \quad 1$$

She has money

$$= \text{₹ } 1 \quad 8 \quad 8 \quad 7 \quad 9$$

7. Shivam bought a car for

$$= \text{₹ } 2 \quad 6 \quad 5 \quad 7 \quad 3 \quad 2$$

He spent on accessories

$$= - \text{₹ } 2 \quad 3 \quad 3 \quad 4 \quad 9$$

Total cost of the car

$$= \text{₹ } 2 \quad 8 \quad 9 \quad 0 \quad 8 \quad 1$$

8. We have to find the different of 53,172 and 72,054

$$\begin{array}{r}
 = \text{₹ } 6 \boxed{1} 1 \boxed{9} \boxed{1} 5 \\
 - 5 \quad 3 \quad 1 \quad 7 \quad 2 \\
 \hline
 1 \quad 8 \quad 8 \quad 8 \quad 2
 \end{array}$$

Hence, 18,882 must be added to 53,172 to get 72,054.

Model Test Paper-II

1. (a) $5 \times 50 = 5 \times 5 \times 10$

$$= 25 \times 10$$

$$= 250$$

(b) $38 \times 8 = (30 + 8) \times 8$

$$= 30 \times 8 + 8 \times 8$$

$$= 240 + 64 = 304$$

(c) $26 \times 7 = (20 + 6) \times 7$

$$= 20 \times 7 + 6 \times 7$$

$$= 140 + 42 = 182$$

(d) $180 \times 3 = 18 \times 10 \times 3$

$$= 54 \times 10 = 540$$

(e) $259 \times 6 = (200 + 50 + 9) \times 6$

$$= 200 \times 6 + 50 \times 6 + 9 \times 6$$

$$= 1200 + 300 + 54$$

$$= 1554$$

(f) $567 \times 5 = (500 + 60 + 7) \times 5$

$$= 500 \times 5 + 60 \times 5 + 7 \times 5$$

$$= 2500 + 300 + 35$$

$$= 2835$$

(g) $1740 \times 4 = (1000 + 700 + 40) \times 4$
 $= 1000 \times 4 + 700 \times 4 + 40 \times 4$
 $= 4000 + 2800 + 160$
 $= 6960$

(h) $13545 \times 5 = (10000 + 3000 + 500 + 40 + 5) \times 5$
 $= 10000 \times 5 + 3000 \times 5 + 500 \times 5 + 40 \times 5 + 5 \times 5$
 $= 50000 + 15000 + 2500 + 200 + 25$
 $= 67725$

(i) $87698 \times 9 = (80000 + 7000 + 600 + 90 + 8) \times 9$
 $= 80000 \times 9 + 7000 \times 9 + 600 \times 9 + 90 \times 9 + 8 \times 9$
 $= 720000 + 63000 + 63000 + 5400 + 810 + 72$
 $= 852282$

2. (a)

$$\begin{array}{r} & & 1 \\ & & 1 \\ \times & 3 & 4 & 6 \\ \hline & 6 & 9 & 2 \\ 6 & 9 & 2 & \times \\ + & 3 & 4 & 6 & \times & \times \\ \hline & 4 & 2 & 2 & 1 & 2 \end{array}$$

(b)

$$\begin{array}{r} & 2 & 1 \\ & 2 & 7 & 4 \\ \times & 1 & 3 & 0 \\ \hline & 0 & 0 & 0 \\ 8 & 2 & 2 & \times \\ + & 2 & 7 & 4 & \times & \times \\ \hline & 3 & 5 & 6 & 2 & 0 \end{array}$$

(c)

$$\begin{array}{r} & 1 & 1 \\ & 5 & 2 & 2 \\ \times & 3 & 6 & 4 \\ \hline & 2 & 0 & 8 & 8 \\ 3 & 1 & 3 & 2 & \times \\ + & 1 & 5 & 6 & 6 & \times & \times \\ \hline & 1 & 9 & 0 & 0 & 0 & 8 \end{array}$$

3. (a) $72 \div 9 = 8$ (b) $32 \div 4 = 8$ (c) $60 \div 10 = 6$
(d) $21 \div 7 = 3$ (e) $42 \div 6 = 7$ (f) $40 \div 8 = 5$

4. (a) 30, 36, 42 (b) 25, 30, 35, 40
(c) 50, 60, 70 (d) 75, 90, 105, 120

5. (a) No (b) Yes (c) No (d) Yes

6. (a) $\frac{8}{18} = \frac{8 \div 2}{18 \div 2} = \frac{4}{9}$ (b) $\frac{60}{70} = \frac{60 \div 10}{70 \div 10} = \frac{6}{7}$
(c) $\frac{40}{44} = \frac{40 \div 4}{44 \div 4} = \frac{10}{11}$ (d) $\frac{15}{12} = \frac{15 \div 3}{12 \div 3} = \frac{5}{4}$

$$(e) \frac{27}{36} = \frac{27 \div 9}{36 \div 9} = \frac{3}{4}$$

$$(f) \frac{238}{306} = \frac{238 \div 34}{306 \div 34} = \frac{7}{9}$$

7. Proper fractions = $\frac{3}{7}, \frac{12}{15}, \frac{8}{50}, \frac{2}{25}, \frac{7}{21}, \frac{27}{40}, \frac{45}{47}$

Improper fractions = $\frac{8}{5}, \frac{15}{14}, \frac{10}{3}$

$$8. (a) 2\frac{1}{7} = \frac{2 \times 7 + 1}{7} = \frac{14 + 1}{7} = \frac{15}{7}$$

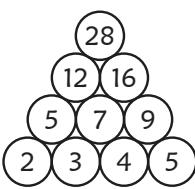
$$(b) 3\frac{3}{8} = \frac{3 \times 8 + 3}{8} = \frac{24 + 3}{8} = \frac{27}{8}$$

$$(c) 5\frac{11}{13} = \frac{5 \times 13 + 11}{13} = \frac{65 + 11}{13} = \frac{76}{13}$$

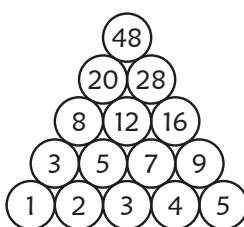
$$(d) 12\frac{8}{5} = \frac{12 \times 5 + 8}{5} = \frac{60 + 8}{5} = \frac{68}{5}$$

Model Test Paper-III

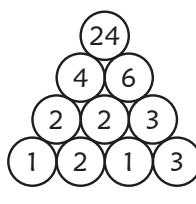
1. The cost of 10 books = ₹ 800
The cost of 1 book = ₹ 800 ÷ 10
= ₹ 80
The cost of 15 books = ₹ 80 × 15
= ₹ 1200
2. The capacity of 9 buckets = 99 l
The capacity of 1 bucket = 99 ÷ 9 = 11 l
The capacity of 16 buckets = 11 × 16 = 176 l
3. The weight of 1 box = 4.5 kg
The weight of 4 boxes = 4.5 × 4
= 18 kg
4. (c) Infinite
5. (a) 2, 4, 8, 16, 32, 64, 128 (b) 5, 7, 9, 11, 13, 15
(c) 2, 2, 5, 2, 2, 5, 2, 2, 5 (d) 1, 3, 5, 7, 9, 11, 13, 15, 17
(e) 1, 4, 5, 9, 14, 23, 37, 60, 97
6. (a)



(b)



(c)



7. (a) False (b) False (c) False (d) True

8. (a) (i) radius = 13 cm

$$\text{diameter} = 2 \times \text{radius}$$
$$= 2 \times 13 = 26 \text{ cm}$$

(ii) radius = 8 cm
 diameter = 2×8
 = 16 cm

(iii) radius = 15 cm
 diameter = 2×15
 = 30 cm

(b) (i) diameter = 25 cm
 radius = $\frac{\text{diameter}}{2} = \frac{25}{2} = 12.5 \text{ cm}$

(ii) diameter = 30 cm
 radius = $\frac{30}{2} = 15 \text{ cm}$

(iii) diameter = 66 cm
 radius = $\frac{66}{2} = 33 \text{ cm}$

(c) Do it yourself.

Model Test Paper-IV

1. (a) Perimeter = 2 (length + breadth) = 2 (18 + 12) cm
 $= 2 \times 30 = 60 \text{ cm}$
 (b) Perimeter = 2 (15 + 10) cm = $2 \times 25 = 50 \text{ cm}$
 (c) Perimeter = 2 (35 + 21) cm = $2 \times 56 = 112 \text{ cm}$
2. (a) 100 (b) 5 (c) 25 (d) 10
3. (a) 45 minutes past 7 (b) 50 minutes past 3 (c) 40 minutes past 8
 (d) 57 minutes past 7 (e) 52 minutes past 7 (f) 48 minutes past 8
4. (a) Perimeter = 4 cm + 3 cm + 2 cm + 2 cm + 10 cm +
 $2 \text{ cm} + 4 \text{ cm} + 3 \text{ cm} = 30 \text{ cm}$
 (b) Perimeter = 5 cm +
 $5 \text{ cm} = 30 \text{ cm}$
5. Do it yourself.
6. (a) 4:45 p.m. (b) 10:25 p.m. (c) 7:20 a.m.
 (d) 12:15 a.m. (e) 9:05 p.m. (f) 3:10 p.m.

7. (a)

2	3	7	3	2
+ 4	5	2	4	6
<hr/>				
6	8	9	7	8

(b)

1				
3	3	5	3	2
+ 5	5	6	4	2
<hr/>				
8	9	1	7	4

(c)

6	3	6	3	2
+ 1	6	3	5	2
<hr/>				
7	9	9	8	4

8. (a) $13,000 \text{ g} = 13,000 \div 1000 = 13 \text{ kg}$
 (b) $36419 \text{ g} = 36419 \div 1000 = 36 \text{ kg } 419 \text{ g}$
 (c) $12,625 \text{ g} = 12,625 \div 1000 = 12 \text{ kg } 625 \text{ g}$

