

2. (a) 
$$\begin{array}{r} 321505 \\ + 35248 \\ \hline 356753 \end{array}$$

(b) 
$$\begin{array}{r} 314613 \\ + 52046 \\ \hline 366659 \end{array}$$

∴ 356753 is 35248 more than 321505

∴ 366659 is 52046 more than 314613

(c) 
$$\begin{array}{r} 803188 \\ + 845201 \\ \hline 1648389 \end{array}$$

(d) 
$$\begin{array}{r} 432100 \\ + 324806 \\ \hline 756906 \end{array}$$

∴ 1648389 is 845201 more than 803188

∴ 756906 is 324806 more than 432100

3. (a) 

Buses	43219
new buses	+ 2310
total buses	<u>45,529</u>

(b) 

toys made on Monday	5034
toys made on Tuesday	52521
toys made on Sunday	+ 453681
total toys made	<u>511236</u>

(c) 

employees in Delhi	2490
employees in Mumbai	13401
employees in Bengaluru	+ 6174
total employees	<u>22065</u>

(d) 

Men	523421
Women	432692
Children	+ 221342
Population	<u>11,77,455</u>

### Exercise 3.2

1. (a) 
$$\begin{array}{r} 834901 \\ + 1124076 \\ \hline 1958977 \end{array}$$

$834901 + 1124076 = 19,58,977 =$  Nineteen lakh fifty eight thousand Nine hundred seventy seven

(b) 
$$\begin{array}{r} 290881 \\ + 5109923 \\ \hline 5400804 \end{array}$$

$290881 + 5109923 = 54,00,804 =$  Fifty four lakh eight hundred and four

(c) 
$$\begin{array}{r} 2432153 \\ + 3421625 \\ \hline 5853778 \end{array}$$

$2432153 + 3421625 = 58,53,778 =$  Fifty eight lakh fifty three thousand seven hundred seventy eight

(d) 
$$\begin{array}{r} 3562131 \\ + 482319 \\ \hline 4044450 \end{array}$$

$3562131 + 482319 = 40,44,450$  Forty lakh forty four thousand four hundred and fifty

(e)

$$\begin{array}{r} 1038501 \\ + 2060010 \\ \hline 3098511 \end{array}$$

$1038501 + 2060010 = 30,98,511 =$  Thirty lakh ninety eight thousand five hundred and eleven

(f)

$$\begin{array}{r} 7853214 \\ + 4321116 \\ \hline 12174330 \end{array}$$

$7853214 + 4321116 = 1,21,74,330 =$  One crore twenty one lakh seventy four thousand three hundred thirty

(g)

$$\begin{array}{r} 2623142 \\ 8632184 \\ + 52431 \\ \hline 11307757 \end{array}$$

$2623142 + 8632184 + 52432 = 1,13,07,757 =$  One crore thirteen lakh seven thousand seven hundred fifty seven

(h)

$$\begin{array}{r} 4562242 \\ 1826141 \\ + 11431 \\ \hline 6399814 \end{array}$$

$4562242 + 1826141 + 11431 = 63,99,814 =$  Sixty three lakh ninety nine thousand eight hundred and fourteen

(i)

$$\begin{array}{r} 87568 \\ 36363 \\ + 2525255 \\ \hline 2649186 \end{array}$$

$87568 + 36363 + 2525255 = 26,49,186 =$  Twenty six lakh forty nine thousand one hundred and eighty six

(j)

$$\begin{array}{r} 7687453 \\ 2643625 \\ + 8999634 \\ \hline 19330712 \end{array}$$

$7687453 + 2643625 + 8999634 = 1,93,30,712 =$  One crore ninety three lakh thirty thousand seven hundred twelve

(k)

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

$3452071 + 1226003 + 5321715 = 99,99,789 =$  Ninety nine lakh ninety nine thousand seven hundred eighty nine

(l)

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

$2100304 + 2166070 + 4030785 = 82,97,159 =$  Eighty two lakh Ninety seven thousand one hundred and fifty nine

2. (a)

	35,	27,	644
+	72,	04,	166
	1,	07,	31, 810

Sum is One crore seven lakh, thirty one thousand eight hundred and ten

(b)

	10,	60,	408
+	12,	27,	391
	22,	87,	799

Sum is twenty two lakh, Eighty seven thousand seven hundred and ninety nine

(c)

	25,	842
	7,	41, 287
+	44,	90, 087
	52,	57, 216

Sum is fifty two lakh fifty seven thousand two hundred and sixteen

(d)

	19,	24,	477
	39,	042	
+	52,	34,	659
	71,	98,	178

Sum seventy one lakh. Ninety Eight thousand one hundred seventy eight

### Exercise-3.3

1. (a)

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

$\therefore 23416234 + 45343762 = 6,87,59,996 =$  Six crore eighty seven lakh fifty nine thousand nine hundred ninety six

(b)

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

$\therefore 54873865 + 35477438 = 9,03,51,303 =$  Nine crore three lakh fifty one thousand and three hundred and three

$$\begin{array}{r}
 \text{(c)} \quad 33435305 \\
 + 65462384 \\
 \hline
 98897689
 \end{array}$$

$33435305 + 65462384 = 9,88,97,689 =$  Nine crore Eighty eight lakh Ninety seven thousand six hundred and eighty nine

$$\begin{array}{r}
 \text{(d)} \quad 93784126 \\
 + 35478878 \\
 \hline
 129263004
 \end{array}$$

$93784126 + 35478878 = 12,92,63,004 =$  Twelve crore ninety two lakh sixty three thousand and four

$$\begin{array}{r}
 \text{2. (a)} \quad 34176521 \\
 \quad \quad 83621374 \\
 + 53621542 \\
 \hline
 171419437
 \end{array}
 \quad
 \begin{array}{r}
 \text{(b)} \quad 14410321 \\
 \quad \quad 31457312 \\
 + 44121345 \\
 \hline
 89988978
 \end{array}
 \quad
 \begin{array}{r}
 \text{(c)} \quad 54736490 \\
 \quad \quad + 10973784 \\
 \hline
 65710274
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad 2874352 \\
 \quad \quad 856243 \\
 + 56783224 \\
 \hline
 60413819
 \end{array}
 \quad
 \begin{array}{r}
 \text{(e)} \quad 230041 \\
 \quad \quad 10067302 \\
 + 11300041 \\
 \hline
 21597384
 \end{array}
 \quad
 \begin{array}{r}
 \text{(f)} \quad 36242038 \\
 \quad \quad + 11078833 \\
 \hline
 47320871
 \end{array}$$

$$\begin{array}{r}
 \text{3. (a)} \quad 4, 35, 31, 956 \\
 \quad \quad + 9, 98, 13, 335 \\
 \hline
 14, 33, 45, 291
 \end{array}
 \quad
 \begin{array}{r}
 \text{(b)} \quad 2, 43, 65, 741 \\
 \quad \quad + 5, 58, 48, 511 \\
 \hline
 8, 02, 14, 252
 \end{array}$$

Fourteen crore thirty three lakh forty five thousand two hundred and ninety one.

Eight crore two lakh fourteen thousand two hundred and fifty two

$$\begin{array}{r}
 \text{(c)} \quad 87, 03, 566 \\
 \quad \quad 21, 36, 009 \\
 + 1, 01, 77, 835 \\
 \hline
 2, 10, 18, 410
 \end{array}
 \quad
 \begin{array}{r}
 \text{(d)} \quad 8, 70, 87, 771 \\
 \quad \quad 11, 78, 518 \\
 + 5, 99, 00, 866 \\
 \hline
 14, 81, 67, 155
 \end{array}$$

Two crore ten lakh eighteen thousand four hundred ten

Fourteen crore eighty one lakh sixty seven thousand one hundred fifty five

### Exercise 3.4

$$\begin{array}{r}
 \text{1. (a)} \quad \text{Production in 2006-2007} \quad = \quad 5369831 \\
 \quad \quad \text{Production in 2007-2008} \quad = \quad + 8567842 \\
 \quad \quad \text{Total production in 2006-2008} \quad = \quad \hline 1,39,37,673
 \end{array}$$

<b>(b)</b>	Production of toys in 2008-2009	=	19678395
	Production of toys in 2009-2010	=	+ 23698743
	Total production of toys in 2008-2010	=	<u>4,33,77,138</u>
<b>(c)</b>	Production of toys in 2006-2008	=	1,39,37,673
	Production of toys in 2008-2010	+	+ 4,33,77,138
	Total production of toys in 2006-2010	=	<u>5,73,14,811</u>
<b>2.</b>	Books in small store house	209	1400
	Books in big store house	+ 362	1705
	Total books	<u>57,13,</u>	<u>105</u>
<b>3.</b>	Book sold in Ist week	426	1273
	Book sold in IInd week	+ 853	21540
	Total books sold	<u>12,79,42,</u>	<u>813</u>
<b>4.</b>	People in town A	563	2178
		+ 481	261
	People in town B	<u>61,13,</u>	<u>439</u>
<b>5.</b>	Money allocated in Ist year	₹ 387	41981
	Money allocated in IInd year	₹ 331	41928
	Money allocated in IIIrd year	+ ₹ 374	25627
	Total amount allocated in 3 years	<u>10,93,09,</u>	<u>536</u>

### Exercise-3.5

<b>1.</b>	<b>(a)</b>	Estimated sum	Actual sum	
		269 → 270	269	Actual sum 2792
		1792 → 1790	1792	Estimated sum – 2790
		731 → + 730	+ 731	difference <u>2</u>
		<u>2790</u>	<u>2792</u>	
	<b>(b)</b>	Estimated sum	Actual sum	
		444 → 440	444	Actual sum 1537
		214 → 210	214	Estimated sum – 1530
		879 → + 880	+ 879	difference <u>7</u>
		<u>1530</u>	<u>1537</u>	
	<b>(c)</b>	Estimated sum	Actual sum	
		342 → 340	342	Actual sum 3120
		879 → 880	879	Estimated sum – 3116
		1895 → + 1900	+ 1895	difference <u>3</u>
		<u>3120</u>	<u>3116</u>	

<b>(d)</b>	Estimated sum	Actual sum		
	343 → 340	343	Actual sum	8113
	486 → 490	486	Estimated sum	– 8110
	7284 → + <u>7280</u>	+ 7284	difference	<u>3</u>
	<u>8110</u>	<u>8113</u>		

<b>2. (a)</b>	Estimated sum	Actual sum		
	4865 → 4900	4865	Actual sum	12640
	349 → 300	349	Estimated sum	– 12600
	7426 → + <u>7400</u>	+ 7426	difference	<u>40</u>
	<u>12600</u>	<u>12640</u>		

<b>(b)</b>	Estimated sum	Actual sum		
	14562 → 14600	14562	Estimated sum	20300
	829 → 800	829	Actual sum	– 20253
	4862 → + <u>4900</u>	+ 4862	difference	<u>47</u>
	<u>20300</u>	<u>20253</u>		

<b>(c)</b>	Estimated sum	Actual sum		
	8462 → 8500	8462	Estimated sum	12900
	1491 → 1500	1491	Actual sum	– 12895
	2942 → + <u>2900</u>	+ 2942	difference	<u>5</u>
	<u>12900</u>	<u>12895</u>		

<b>(d)</b>	Estimated sum	Actual sum		
	3421 → 3400	3421	Actual sum	13452
	3882 → 6900	6882	Estimated sum	– 13400
	3149 → + <u>3100</u>	+ 3149	difference	<u>52</u>
	<u>13400</u>	<u>13452</u>		

<b>3. (a)</b>	Estimated sum	Actual sum		
	6348 → 6000	6348	Actual sum	17000
	1720 → 2000	1720	Estimated sum	– 1660
	8592 → + <u>9000</u>	+ 8592	difference	<u>340</u>
	<u>17000</u>	<u>16660</u>		

(b)	Estimated sum	Actual sum		
	3948 → 4000	3948	Actual sum	12165
	2736 → 3000	2736	Estimated sum	– 12000
	5481 → + <u>5000</u>	+ 5481	difference	<u>165</u>
	12000	<u>12165</u>		

(c)	Estimated sum	Actual sum		
	3333 → 3000	3333	Actual sum	44389
	4811 → 5000	4811	Estimated sum	– 44000
	36245 → + <u>36000</u>	+ 36245	difference	<u>389</u>
	<u>44000</u>	<u>44389</u>		

4. (a)

(a)	Estimated sum	Actual sum		
	₹ 378 → 380	378	Actual sum	₹ 3051
	₹ 1549 → 1550	1549	Estimated sum	– ₹ 3050
	₹ 352 → 350	352	difference	<u>₹ 1</u>
	₹ 772 → + <u>770</u>	+ 772		
	<u>₹ 3050</u>	<u>₹ 3051</u>		

Estimation sum is almost accurate.

(b)	Estimated sum	Actual sum		
	₹ 378 → 400	378	Estimated sum	₹ 3100
	₹ 1549 → 1500	1549	Actual sum	– ₹ 3051
	₹ 352 → 400	352	difference	<u>₹ 49</u>
	₹ 772 → + <u>400</u>	+ 772		
	<u>₹ 3100</u>	<u>₹ 3051</u>		

Estimation sum is almost accurate..

### Exercise-3.6

<p>1. (a)</p> $\begin{array}{r} 8\ 7\ 9\ 6\ 3\ 2\ 1 \\ - 7\ 3\ 2\ 5\ 1\ 2\ 1 \\ \hline 1\ 4\ 7\ 1\ 2\ 0\ 0 \end{array}$	<p>(b)</p> $\begin{array}{r} 7\ 8\ 3\ 4\ 5\ 6\ 8 \\ - 5\ 4\ 3\ 7\ 8\ 9\ 8 \\ \hline 2\ 3\ 9\ 6\ 6\ 7\ 0 \end{array}$	<p>(c)</p> $\begin{array}{r} 8\ 5\ 7\ 6\ 2\ 4\ 8 \\ - 5\ 9\ 4\ 4\ 8\ 2\ 7 \\ \hline 2\ 6\ 3\ 1\ 4\ 2\ 1 \end{array}$
<p>(d)</p> $\begin{array}{r} 8\ 6\ 3\ 4\ 5\ 6\ 7\ 8 \\ - 7\ 4\ 5\ 8\ 7\ 8\ 9 \\ \hline 7\ 8\ 8\ 8\ 6\ 8\ 8\ 9 \end{array}$	<p>(e)</p> $\begin{array}{r} 7\ 6\ 3\ 4\ 4\ 5\ 6\ 1\ 9 \\ - 6\ 1\ 2\ 5\ 4\ 7\ 8\ 7 \\ \hline 7\ 0\ 2\ 1\ 9\ 0\ 8\ 3\ 2 \end{array}$	<p>(f)</p> $\begin{array}{r} 9\ 8\ 7\ 5\ 4\ 3\ 2\ 5 \\ - 7\ 3\ 4\ 7\ 5\ 5\ 7\ 1 \\ \hline 2\ 5\ 2\ 7\ 8\ 7\ 5\ 4 \end{array}$

$$\begin{array}{r} 2. \quad (a) \quad 4452612 \\ - 1863086 \\ \hline 25,89,526 \end{array}$$

Twenty five lakh eighty nine thousand five hundred

$$\begin{array}{r} (b) \quad 99,89,730 \\ - 64,61,118 \\ \hline 35,28,612 \end{array}$$

Thirty five lakh twenty eight thousand six hundred twelve

$$\begin{array}{r} (c) \quad 5,56,21,000 \\ - 1,11,89,246 \\ \hline 4,44,31,754 \end{array}$$

Four crore forty four lakh thirty one thousand seven hundred and fifty four

$$\begin{array}{r} 3. \quad (a) \quad 97262987 \\ - 88066143 \\ \hline 9196844 \end{array}$$

$$\begin{array}{r} (b) \quad 816258 \\ - 364800 \\ \hline 451458 \end{array}$$

∴ Other number is 91,96,844

∴ 816258 is 451458 more than 364800

$$\begin{array}{r} (c) \quad \text{greatest 8 digit number} \quad 99999999 \\ - 63547458 \\ \hline 36452541 \end{array}$$

∴ 36452541 should be added to 63547458 to get greatest 8 digit number

$$\begin{array}{r} (d) \quad \text{Income from fruits and vegetables} \quad ₹ 50000 \\ - ₹ 32700 \\ \hline \end{array}$$

∴ Income from vegetables ₹ 17300

$$\begin{array}{r} (e) \quad \text{Greatest number} \quad 9876540 \\ \text{smallest number} \quad - 4056789 \\ \hline \text{difference} \quad 5819751 \end{array}$$

$$\begin{array}{r} (f) \quad \text{Total onion} \quad 23654 \\ \text{onion spoilt} \quad - 2367 \\ \hline \text{onion not spoilt} \quad 21287 \end{array}$$

### Exercise-3.7

$$\begin{array}{r} 1. \quad (a) \quad \begin{array}{l} \text{Actual} \\ \text{difference} \end{array} \quad \begin{array}{l} \text{Estimate} \\ \text{difference} \end{array} \\ \quad \quad \quad 86 \quad 86 \rightarrow 90 \\ \quad \quad \quad - 39 \quad 39 \rightarrow - 40 \\ \quad \quad \quad \hline \quad \quad \quad 47 \quad \quad \quad \hline \quad \quad \quad \quad \quad \quad \quad \hline \quad \quad \quad \quad \quad \quad \quad 50 \end{array}$$

$$\begin{array}{r} (b) \quad \begin{array}{l} \text{Actual} \\ \text{difference} \end{array} \quad \begin{array}{l} \text{Estimate} \\ \text{difference} \end{array} \\ \quad \quad \quad 145 \quad 145 \rightarrow 150 \\ \quad \quad \quad - 112 \quad 112 \rightarrow - 110 \\ \quad \quad \quad \hline \quad \quad \quad 33 \quad \quad \quad \hline \quad \quad \quad \quad \quad \quad \quad \hline \quad \quad \quad \quad \quad \quad \quad 40 \end{array}$$

(c)

Actual difference		Estimate difference
157	→	160
- 23	→	- 20
134		140

(d)

Actual difference		Estimate difference
168	→	170
- 109	→	- 110
59		60

(e)

Actual difference		Estimate difference
94	→	90
- 39	→	- 40
55		50

(f)

Actual difference		Estimate difference
385	→	390
- 24	→	- 20
361		370

2. (a)

Actual difference		Estimate difference
4321	→	4300
- 3486	→	- 3500
835		800

(b)

Actual difference		Estimate difference
369	→	400
- 329	→	- 300
40		100

(c)

Actual difference		Estimate difference
494	→	500
- 384	→	- 400
110		100

(d)

Actual difference		Estimate difference
1492	→	1500
- 261	→	- 300
231		1200

(e)

Actual difference		Estimate difference
3925	→	3900
- 2132	→	- 2100
1793		1800

(f)

Actual difference		Estimate difference
2808	→	2800
- 592	→	- 600
2216		2200

3. (a)

Estimated sum	→	Actual sum
4938	→	5000
4136	→	- 4000
1000		802

(b)

Estimated sum	→	Actual sum
3948	→	4000
3218	→	- 3000
1000		730

(c)

Estimated sum	→	Actual sum
75862	→	79000
52462	→	- 52000
27000		26100

(d)

Estimated sum	→	Actual sum
13942	→	14000
11782	→	- 12000
2000		2160

(e)	Estimated sum	Actual sum
	43864 → 44000	43864
	1928 → $\frac{-2000}{42000}$	$\frac{-1928}{41936}$

4. Estimate	Actual
Shampoo ₹191 → ₹190	₹191
Soap ₹36 → ₹40	₹36
Other item ₹232 → ₹230	₹332
total $\frac{-₹460}{₹460}$	$\frac{-₹459}{₹459}$
Madhu will get back ₹500	₹500
$\frac{-₹460}{₹40}$	$\frac{-₹459}{₹41}$
	Actual Madhu get ₹41

### Exercise-3.8

1. Other number is 86738872 - 3405632  
i.e.  $\frac{5673872}{-3405632}$   
5268240

2.  $\frac{25678232}{+33784701}$        $\frac{79836260}{-59462933}$   
59462933      20373327

3.  $\frac{74583267}{+2874032}$        $\frac{43874280}{+3264876}$        $\frac{77457299}{-47139156}$   
77457299      47139156      30318143

sum of 74583267 and 2874032 greater than the sum of 43874280 and 3264876 by 30318143

4.  $\frac{5672672}{+3812426}$        $\frac{10000000}{-9485098}$   
9485098      514902

514902 should be added to the sum of 5672672 and 3812426 to get 10000000

## 4. MULTIPLICATION

### Exercise-4.1

1. (a)  $\frac{4583}{\times 7}$   
33971      thirty three thousand nine hundred seventy one

(b) 
$$\begin{array}{r} 8625 \\ \times 9 \\ \hline 77625 \end{array}$$

Seventy seven thousand  
six hundred and twenty five

(c) 
$$\begin{array}{r} 6254 \\ \times 32 \\ \hline 12508 \\ 18762 \times \\ \hline 200128 \end{array}$$

Two lakh one hundred twenty eight

(d) 
$$\begin{array}{r} 5678 \\ \times 63 \\ \hline 17034 \\ 34068 \times \\ \hline 357714 \end{array}$$

Three lakh fifty seven thousand  
seven hundred and fourteen

(e) 
$$\begin{array}{r} 8765 \\ \times 42 \\ \hline 17530 \\ 35060 \times \\ \hline 368130 \end{array}$$

Three lakh sixty eight thousand  
one hundred and thirty

(f) 
$$\begin{array}{r} 2659 \\ \times 33 \\ \hline 7977 \\ 7977 \times \\ \hline 87747 \end{array}$$

Eighty seven thousand  
seven hundred and forty seven

(g) 
$$\begin{array}{r} 6789 \\ \times 761 \\ \hline 6789 \\ 40734 \times \\ 47523 \times \times \\ \hline 5166429 \end{array}$$

Fifty one lakh sixty six thousand four  
hundred and twenty nine

(h) 
$$\begin{array}{r} 4283 \\ \times 820 \\ \hline 000 \\ 8566 \times \\ 34264 \times \times \\ \hline 3512060 \end{array}$$

Thirty five lakh twelve thousand  
and sixty

2. (a) Cost of 1 camera = ₹ 4621  
Cost of 7 cameras = 
$$\begin{array}{r} \phantom{₹} \\ \phantom{₹} \\ \phantom{₹} \\ \phantom{₹} \\ \phantom{₹} \\ \phantom{₹} \\ \phantom{₹} \\ \hline ₹ 32347 \end{array}$$

$$\begin{array}{r}
 \text{(b) Cost of 1 note book} = \text{₹ } 46 \\
 \text{Cost of 6214 notebooks} = \quad \times 6214 \\
 \hline
 184 \\
 46 \times \\
 92 \times \times \\
 276 \times \times \times \\
 \hline
 \mathbf{285844}
 \end{array}$$

$$\begin{array}{r}
 \text{(c) Cost of 1 tricycle} = \text{₹ } 1562 \\
 \text{Cost of 322 tricycles} = \quad \times 322 \\
 \hline
 3124 \\
 3124 \times \\
 4686 \times \times \\
 \hline
 \mathbf{502964}
 \end{array}$$

$$\begin{array}{r}
 \text{(d) Cost of 8 dress} = \text{₹ } 536 \\
 \quad \quad \quad \times 8 \\
 \hline
 \text{₹ } 4288
 \end{array}$$

$$\begin{array}{r}
 \text{Cost of 63 books} = \text{₹ } 326 \\
 \quad \quad \quad \times 63 \\
 \hline
 978 \\
 1956 \times \\
 \hline
 20538
 \end{array}$$

$$\begin{array}{r}
 \text{Cost of 83 pizzas} = \text{₹ } 232 \\
 \quad \quad \quad \times 83 \\
 \hline
 696 \\
 1856 \times \\
 \hline
 \text{₹ } 19256
 \end{array}$$

$$\begin{array}{r}
 \text{Bill paid by Mr. Sharma} = \text{₹ } 4288 \\
 \text{₹ } 20538 \\
 + \text{₹ } 19256 \\
 \hline
 \text{₹ } 44082
 \end{array}$$

$$\begin{array}{r}
 \text{(e) Cost of 1 table} = \quad \text{₹ 1486} \\
 \text{Cost of 685 tables} = \quad \times 685 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 7430 \\
 \quad \quad \quad \quad \quad \quad \quad \quad 11888 \times \\
 \quad \quad \quad \quad \quad \quad \quad \quad 8916 \times \times \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \underline{\underline{\text{₹ 1017910}}}
 \end{array}$$

### Exercise 4.2

- |        |                                  |                                    |
|--------|----------------------------------|------------------------------------|
| 1. (a) | $37 \times 4000 = 148000$        | $\therefore 374 = 148$             |
| (b)    | $87 \times 5000 = 485000$        | $\therefore 87 \times 5 = 485$     |
| (c)    | $382 \times 10000 = 3820000$     |                                    |
| (d)    | $324 \times 80000 = 25920000$    | $\therefore 324 \times 8 = 2592$   |
| (e)    | $565 \times 2000000 = 113000000$ | $\therefore 565 \times 2 = 1130$   |
| (f)    | $1458 \times 60000 = 87480000$   | $\therefore 1458 \times 6 = 8748$  |
| (g)    | $5432 \times 3000 = 16296000$    | $\therefore 5432 \times 3 = 16296$ |
| (h)    | $225 \times 1000000 = 225000000$ |                                    |

### Exercise 4.3

$$\begin{array}{r}
 \text{1. (a)} \quad \quad \quad 33333 \\
 \quad \quad \quad \quad \times 626 \\
 \hline
 \quad \quad \quad 199998 \\
 \quad \quad \quad 66666 \times \\
 \hline
 \quad \quad \underline{199998 \times \times} \\
 \quad \quad \underline{\underline{20866458}}
 \end{array}$$

$\therefore$  Product of 33333 and 626 is 20866458

$$\begin{array}{r}
 \text{(b)} \quad \quad \quad 60121 \\
 \quad \quad \quad \quad \times 585 \\
 \hline
 \quad \quad \quad 300605 \\
 \quad \quad \quad 480968 \times \\
 \hline
 \quad \quad \underline{300605 \times \times} \\
 \quad \quad \underline{\underline{35170785}}
 \end{array}$$

$\therefore$  Product of 60121 and 585 is 35170785

$$\begin{array}{r}
 \text{(c)} \quad \quad \quad 16431 \\
 \quad \quad \quad \quad \times 369 \\
 \hline
 \quad \quad \quad 147879 \\
 \quad \quad \quad 98586 \times \\
 \hline
 \quad \quad \underline{49293 \times \times} \\
 \quad \quad \underline{\underline{6063039}}
 \end{array}$$

$\therefore$  Product of 16431 and 369 is 6063039

$$\begin{array}{r}
 \text{(d)} \quad \quad \quad 470896 \\
 \quad \quad \quad \quad \times 813 \\
 \hline
 \quad \quad \quad 1412688 \\
 \quad \quad \quad 470896 \times \\
 \hline
 \quad \quad \underline{3767168 \times \times} \\
 \quad \quad \underline{\underline{382838448}}
 \end{array}$$

$\therefore$  Product of 470896 and 813 is 382838448

$$\begin{array}{r}
 \text{(e)} \quad 436291 \\
 \quad \times 252 \\
 \hline
 872582 \\
 2181455 \times \\
 872582 \times \times \\
 \hline
 \mathbf{109945332}
 \end{array}$$

∴ Product of 436291 and 252 is 109945332

$$\begin{array}{r}
 \text{(f)} \quad 385462 \\
 \quad \times 518 \\
 \hline
 3083696 \\
 385462 \times \\
 1927310 \times \times \\
 \hline
 \mathbf{199669316}
 \end{array}$$

∴ Product of 385462 and 518 is 199669316

$$\begin{array}{r}
 \text{2. (a)} \quad 26732 \\
 \quad \times 438 \\
 \hline
 213856 \\
 80196 \times \\
 106928 \times \times \\
 \hline
 \mathbf{11708616}
 \end{array}$$

One crore seventeen lakh eight thousand six hundred and sixteen

$$\begin{array}{r}
 \text{(b)} \quad 400634 \\
 \quad \times 323 \\
 \hline
 1201902 \\
 801268 \times \\
 1201902 \times \times \\
 \hline
 \mathbf{129404782}
 \end{array}$$

Twelve crore Ninety four lakh four thousand seven hundred and eighty two

$$\begin{array}{r}
 \text{(c)} \quad 83945 \\
 \quad \times 385 \\
 \hline
 419725 \\
 671560 \times \\
 251835 \times \times \\
 \hline
 \mathbf{32318825}
 \end{array}$$

Three crore twenty three lakh eighteen thousand eight hundred twenty five

$$\begin{array}{r}
 \text{(d)} \quad 254002 \\
 \quad \times 246 \\
 \hline
 1524012 \\
 1016008 \times \\
 508004 \times \times \\
 \hline
 \mathbf{62484492}
 \end{array}$$

Six crore twenty four lakh eighty four thousand four hundred ninety two

$$\begin{array}{r}
 \text{(e)} \quad 304051 \\
 \quad \times 86 \\
 \hline
 1824306 \\
 2432408 \times \\
 \hline
 \mathbf{26148386}
 \end{array}$$

Two crore sixty one lakh forty eight thousand three hundred and eighty six

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

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

### Exercise-4.4

$$\begin{array}{r}
 1. \quad \text{dolls produced in 1 day} \quad \quad \quad 3 \ 2 \ 6 \ 4 \ 0 \ 6 \\
 \quad \text{dolls produced in 24 days} \quad \quad \quad \times 2 \ 4 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 1 \ 3 \ 0 \ 5 \ 6 \ 2 \ 4 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 6 \ 5 \ 2 \ 8 \ 1 \ 2 \times \\
 \hline
 \quad \text{dolls produced in 24 days} \quad \quad \quad 7 \ 8 \ 3 \ 3 \ 7 \ 4 \ 4
 \end{array}$$

$$\begin{array}{r}
 2. \quad \text{Cost of 3624 frocks} \quad \quad \quad 3 \ 6 \ 2 \ 4 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \times 1 \ 5 \ 6 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 2 \ 1 \ 7 \ 4 \ 4 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 1 \ 8 \ 1 \ 2 \ 0 \times \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 3 \ 6 \ 2 \ 4 \times \times \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{₹} \ 4 \ 6 \ 5 \ 3 \ 4 \ 4
 \end{array}$$

$$\begin{array}{r}
 \text{Cost of 4567 shirts} \quad \quad \quad 4 \ 5 \ 6 \ 7 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \times 8 \ 6 \ 7 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 3 \ 1 \ 9 \ 6 \ 9 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 2 \ 7 \ 4 \ 0 \ 2 \times \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 3 \ 6 \ 5 \ 3 \ 6 \times \times \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \quad 3 \ 9 \ 5 \ 9 \ 5 \ 8 \ 9
 \end{array}$$

$$\begin{array}{r}
 \text{shopkeeper make} \quad \quad \quad \text{₹} \ 4 \ 6 \ 5 \ 3 \ 4 \ 4 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad + \text{₹} \ 3 \ 9 \ 5 \ 9 \ 5 \ 8 \ 9 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{₹} \ 4 \ 5 \ 2 \ 4 \ 9 \ 3 \ 3
 \end{array}$$

$$\begin{array}{r}
 3. \quad \text{Chocolates in 1 carton} \quad \quad \quad = \quad \quad \quad 4 \ 5 \ 0 \\
 \quad \text{Chocolates in 1585 cartons} \quad \quad = \quad \quad \times 1 \ 5 \ 8 \ 5 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad 2 \ 2 \ 5 \ 0 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad 3 \ 6 \ 0 \ 0 \times \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad 2 \ 2 \ 5 \ 0 \times \times \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad 4 \ 5 \ 0 \times \times \times \\
 \hline
 \quad \text{Chocolates in 1585 cartons} \quad \quad \quad 7 \ 1 \ 3 \ 2 \ 5 \ 0
 \end{array}$$

$$\begin{array}{r}
 4. \quad \text{Wheat in 1 bag} \quad = \quad 1\ 5\ 0\ \text{kg} \\
 \text{Wheat in 883 bags} \quad = \quad \times 8\ 8\ 3 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 4\ 5\ 0 \\
 \quad \quad \quad \quad \quad \quad \quad 1\ 2\ 0\ 0\ \times \\
 \quad \quad \quad \quad \quad \quad 1\ 2\ 0\ 0\ \times\ \times \\
 \hline
 \quad \quad \quad \quad \quad \quad 1\ 3\ 2\ 4\ 5\ 0\ \text{kg}
 \end{array}$$

$$\begin{array}{r}
 \text{Wheat carry in 65 truck} \quad 1\ 3\ 2\ 4\ 5\ 0 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \times 6\ 5 \\
 \quad \quad \quad \quad \quad \quad \quad \quad 6\ 6\ 2\ 2\ 5\ 0 \\
 \quad \quad \quad \quad \quad \quad 7\ 9\ 4\ 7\ 0\ 0\ \times \\
 \hline
 \quad \quad \quad \quad \quad \quad 8\ 6\ 0\ 9\ 2\ 5\ 0\ \text{kg}
 \end{array}$$

$$\begin{array}{r}
 5. \quad \text{Cost of 175 bags of wheat} = \quad ₹ 3\ 5\ 6 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \times 1\ 7\ 5 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 1\ 7\ 8\ 0 \\
 \quad \quad \quad \quad \quad \quad \quad 2\ 4\ 9\ 2\ \times \\
 \quad \quad \quad \quad \quad \quad 3\ 5\ 6\ \times\ \times \\
 \hline
 \quad \quad \quad \quad \quad \quad ₹ 6\ 2\ 3\ 0\ 0
 \end{array}$$

$$\begin{array}{r}
 \text{Cost of 214 bags of sugar} = \quad ₹ 4\ 1\ 5 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \times 2\ 1\ 4 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 1\ 6\ 6\ 0 \\
 \quad \quad \quad \quad \quad \quad \quad 4\ 1\ 5\ \times \\
 \quad \quad \quad \quad \quad \quad 8\ 3\ 0\ \times\ \times \\
 \hline
 \quad \quad \quad \quad \quad \quad 8\ 8\ 8\ 1\ 0
 \end{array}$$

$$\begin{array}{r}
 \text{total amount spent by Mrs. Sharma} \quad ₹ 6\ 2\ 3\ 0\ 0 \\
 \quad \quad \quad \quad \quad \quad \quad \quad + ₹ 8\ 8\ 8\ 1\ 0 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad ₹ 1\ 5\ 1\ 1\ 1\ 0
 \end{array}$$

$$\begin{array}{r}
 6. \quad \text{Product of 3254 and 74} \quad \quad \quad 3\ 2\ 5\ 4 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \times 7\ 4 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 1\ 3\ 0\ 1\ 6 \\
 \quad \quad \quad \quad \quad \quad 2\ 2\ 7\ 7\ 8\ \times \\
 \hline
 \quad \quad \quad \quad \quad \quad 2\ 4\ 0\ 7\ 9\ 6
 \end{array}$$

$$\begin{array}{r}
 \text{Greatest number 876543} \quad \quad \quad 8\ 7\ 6\ 5\ 4\ 3 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \times 2\ 4\ 0\ 7\ 9\ 6 \\
 \hline
 \quad \quad \quad \quad \quad \quad \quad \quad 6\ 3\ 5\ 7\ 4\ 7
 \end{array}$$

7. Smallest number = 507  
greatest 5 digit number = 99999

$$\begin{array}{r}
 \therefore \qquad \qquad \qquad 99999 \\
 \qquad \qquad \qquad \qquad \times 507 \\
 \hline
 \qquad \qquad \qquad 699993 \\
 \qquad \qquad 00000 \times \\
 \qquad 499995 \times \\
 \hline
 \mathbf{5069493}
 \end{array}$$

Product is

$$\begin{array}{r}
 \mathbf{8.} \quad \text{Man earn in 1 day} \qquad \qquad = \qquad \qquad \mathbf{₹957} \\
 \text{Man earn in 26 days} \qquad \qquad = \qquad \qquad \times 26 \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad 5742 \\
 \qquad \qquad \qquad \qquad \qquad \qquad 1914 \times \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad \mathbf{24882}
 \end{array}$$

$$\begin{array}{r}
 \text{Man earn in 1 year (12 months)} \qquad = \qquad \qquad 24882 \\
 \qquad \qquad \qquad \qquad \qquad \qquad \times 12 \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad 49764 \\
 \qquad \qquad \qquad \qquad \qquad \qquad 24882 \times \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad \mathbf{₹298584}
 \end{array}$$

$$\begin{array}{r}
 \mathbf{9.} \quad \text{Cost of 1 bag of pulse} \qquad \qquad = \qquad \qquad 95 \\
 \qquad \qquad \qquad \qquad \qquad \qquad \times 38 \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad 760 \\
 \qquad \qquad \qquad \qquad \qquad \qquad 285 \times \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad \mathbf{₹3610}
 \end{array}$$

$$\begin{array}{r}
 \text{Cost of 214 bags of pulse} \qquad \qquad = \qquad \qquad 3610 \\
 \qquad \qquad \qquad \qquad \qquad \qquad \times 214 \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad 14440 \\
 \qquad \qquad \qquad \qquad \qquad \qquad 3610 \times \\
 \qquad \qquad \qquad \qquad \qquad \qquad 7220 \times \times \\
 \hline
 \qquad \qquad \qquad \qquad \qquad \qquad \mathbf{₹772540}
 \end{array}$$

### Exercise 4.5

<p><b>1. (a)</b> Estimate product</p> $  \begin{array}{r}  38 \rightarrow 40 \\  53 \rightarrow \times 50 \\  \hline  \qquad \qquad 00 \\  \qquad \qquad 200 \times \\  \hline  \qquad \qquad \mathbf{2000}  \end{array}  $	<p><b>(b)</b> Estimate product</p> $  \begin{array}{r}  68 \rightarrow 70 \\  92 \rightarrow \times 90 \\  \hline  \qquad \qquad 00 \\  \qquad \qquad 630 \times \\  \hline  \qquad \qquad \mathbf{6300}  \end{array}  $	<p><b>(c)</b> Estimate product</p> $  \begin{array}{r}  17 \rightarrow 20 \\  154 \rightarrow \times 150 \\  \hline  \qquad \qquad 00 \\  \qquad \qquad 100 \times \\  \qquad \qquad 20 \times \times \\  \hline  \qquad \qquad \mathbf{3000}  \end{array}  $
---	--	---

(d) Estimate product

$$\begin{array}{r} 87 \rightarrow 90 \\ 41 \rightarrow \times 40 \\ \hline 00 \\ \hline 360 \times \\ \hline 3600 \end{array}$$

(e) Estimate product

$$\begin{array}{r} 28 \rightarrow 30 \\ 204 \rightarrow \times 200 \\ \hline 00 \\ \hline 60 \times \times \\ \hline 6000 \end{array}$$

(f) Estimate product

$$\begin{array}{r} 52 \rightarrow 50 \\ 47 \rightarrow \times 50 \\ \hline 00 \\ \hline 250 \times \\ \hline 2500 \end{array}$$

(g) Estimate product

$$\begin{array}{r} 22 \rightarrow 20 \\ 77 \rightarrow \times 80 \\ \hline 00 \\ \hline 160 \times \\ \hline 1600 \end{array}$$

(h) Estimate product

$$\begin{array}{r} 35 \rightarrow 40 \\ 258 \rightarrow \times 260 \\ \hline 00 \\ \hline 240 \times \\ \hline 80 \times \times \\ \hline 10400 \end{array}$$

2. (a) Estimate product

$$\begin{array}{r} 318 \rightarrow 300 \\ 492 \rightarrow \times 500 \\ \hline 150000 \end{array}$$

(b) Estimate product

$$\begin{array}{r} 723 \rightarrow 700 \\ 842 \rightarrow \times 800 \\ \hline 560000 \end{array}$$

(c) Estimate product

$$\begin{array}{r} 139 \rightarrow 100 \\ 478 \rightarrow \times 500 \\ \hline 50000 \end{array}$$

(d) Estimate product

$$\begin{array}{r} 279 \rightarrow 300 \\ 142 \rightarrow \times 100 \\ \hline 30000 \end{array}$$

(e) Estimate product

$$\begin{array}{r} 543 \rightarrow 500 \\ 369 \rightarrow \times 400 \\ \hline 200000 \end{array}$$

(f) Estimate product

$$\begin{array}{r} 439 \rightarrow 400 \\ 224 \rightarrow \times 200 \\ \hline 80000 \end{array}$$

3. (a) Estimate product

$$\begin{array}{r} 91 \rightarrow 100 \\ 21 \rightarrow \times 20 \\ \hline 2000 \end{array}$$

(b) Estimate product

$$\begin{array}{r} 34 \rightarrow 40 \\ 154 \rightarrow \times 150 \\ \hline 6000 \end{array}$$

(c) Estimate product

$$\begin{array}{r} 23 \rightarrow 30 \\ 47 \rightarrow \times 40 \\ \hline 1200 \end{array}$$

(d) Estimate product

$$\begin{array}{r} 43 \rightarrow 50 \\ 269 \rightarrow \times 260 \\ \hline 13000 \end{array}$$

(e) Estimate product

$$\begin{array}{r} 88 \rightarrow 90 \\ 48 \rightarrow \times 40 \\ \hline 3600 \end{array}$$

(f) Estimate product

$$\begin{array}{r} 82 \rightarrow 80 \\ 65 \rightarrow \times 60 \\ \hline 5400 \end{array}$$

(g) Estimate product

$$\begin{array}{r} 37 \rightarrow 40 \\ 344 \rightarrow \times 340 \\ \hline 13600 \end{array}$$

(h) Estimate product

$$\begin{array}{r} 62 \rightarrow 70 \\ 79 \rightarrow \times 70 \\ \hline 4900 \end{array}$$

4. (a) Estimate product

$$\begin{array}{r} 143 \rightarrow 100 \\ 262 \rightarrow \times 300 \\ \hline 30000 \end{array}$$

(b) Estimate product

$$\begin{array}{r} 342 \rightarrow 300 \\ 777 \rightarrow \times 800 \\ \hline 240000 \end{array}$$

(c) Estimate product

$$\begin{array}{r} 367 \rightarrow 300 \\ 231 \rightarrow \times 300 \\ \hline 90000 \end{array}$$

(d) Estimate product

$$\begin{array}{r} 195 \rightarrow 100 \\ 425 \rightarrow \times 500 \\ \hline 50000 \end{array}$$

(e) Estimate product

$$\begin{array}{r} 367 \rightarrow 300 \\ 231 \rightarrow \times 300 \\ \hline 90000 \end{array}$$

(f) Estimate product

$$\begin{array}{r} 869 \rightarrow 800 \\ 174 \rightarrow \times 200 \\ \hline 160000 \end{array}$$

(g) Estimate product

$$\begin{array}{r} 273 \rightarrow 200 \\ 429 \rightarrow \times 500 \\ \hline 100000 \end{array}$$

(h) Estimate product

$$\begin{array}{r} 144 \rightarrow 100 \\ 763 \rightarrow \times 800 \\ \hline 80000 \end{array}$$

5. (a)  $96 \text{ kg} \rightarrow 100 \text{ kg}$   
 $32 \text{ bags} \rightarrow \times 30 \text{ bags}$   
total weight  $\underline{\underline{3000 \text{ kg}}}$

(b)  $243 \text{ toffees} \rightarrow ₹ 240$   
 $₹ 18 \rightarrow ₹ 20$   
 $\underline{\underline{₹ 4800}}$

∴ Estimate cost of 443 toffees = ₹ 4800

6  $\text{Wheat } 374 \text{ kg} \rightarrow 370$   
rate ₹ 24  $\rightarrow \times 20$   
 $\underline{\underline{₹ 7400}}$

Estimate cost of 374 kg of wheat = ₹ 7400

### Exercise 4.6

1. In 30 days dolls produced = 82440  
In 1 day dolls produced =  $\frac{82440}{30} = 2748$

- In 5 days dolls produced =  $2748 \times 5$   
= 13740
2. In 8 minutes athlete covers = 480 m  
In 1 minute athlete covers =  $\frac{480}{8}$  m = 60 m  
In 20 minutes athlete covers =  $60 \times 20$  m  
= 1200 m
3. Cost of 12 pencils = ₹ 48  
Cost of 1 pencil = ₹  $48 \div 12$  = ₹ 4
4. In one box pens = 250  
In 40 boxes pens =  $250 \times 40$  = 10000
5. In 12 months Rohan spends = ₹ 10800  
In 1 month Rohan spends = ₹  $\frac{10800}{12}$  = 900  
In 6 months Rohan spends = ₹  $900 \times 6$   
= 5400
6. In 8 months Amit saves = ₹ 48000  
In 1 month Amit saves = ₹  $\frac{48000}{8}$   
= ₹ 6000
7. Cost of 16 notebooks = ₹ 640  
Cost of 1 notebook = ₹  $\frac{640}{16}$  = ₹ 40  
Cost of 9 notebooks = ₹  $40 \times 9$   
= ₹ 360
8. Cost of 12 balls = ₹ 24  
Cost of 1 ball = ₹  $\frac{24}{12}$  = ₹ 2  
Cost of 15 balls = ₹  $2 \times 15$   
= 30

## 5. DIVISION

### Exercise-5.1

1. (a)  $430 \div 5$

$$\begin{array}{r} 5 \overline{) 430} \quad (86 \\ \underline{40} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

Quotient = 86  
Remainder = 0

(b)  $544 \div 56$

$$\begin{array}{r} 56 \overline{) 544} \quad (9 \\ \underline{504} \\ 40 \end{array}$$

Quotient = 9  
Remainder = 40

(b)  $85050 \div 15$

$$\begin{array}{r} 15 \overline{) 85050} \quad (5670 \\ \underline{75} \\ 1000 \\ \underline{90} \\ 105 \\ \underline{105} \\ 0 \end{array}$$

Quotient = 5670  
Remainder = 0

(d)  $2016 \div 9$

$$\begin{array}{r} 9 \overline{) 2016} \quad 224 \\ \underline{18} \phantom{00} \\ 21 \phantom{00} \\ \underline{18} \phantom{00} \\ 36 \phantom{00} \\ \underline{36} \\ 0 \end{array}$$

Quotient = 224  
Remainder = 0

(e)  $6075 \div 81$

$$\begin{array}{r} 81 \overline{) 6075} \quad 75 \\ \underline{567} \phantom{00} \\ 405 \phantom{00} \\ \underline{405} \\ 0 \end{array}$$

Quotient = 75  
Remainder = 0

(f)  $1690 \div 13$

$$\begin{array}{r} 13 \overline{) 1690} \quad 130 \\ \underline{13} \phantom{00} \\ 39 \phantom{00} \\ \underline{39} \\ 0 \end{array}$$

Quotient = 130  
Remainder = 0

(g)  $3780 \div 14$

$$\begin{array}{r} 254 \overline{) 3780} \quad 14 \\ \underline{254} \phantom{00} \\ 1240 \phantom{00} \\ \underline{1016} \phantom{00} \\ 224 \end{array}$$

Quotient = 14  
Remainder = 224

(h)  $1116 \div 18$

$$\begin{array}{r} 18 \overline{) 1116} \quad 62 \\ \underline{108} \phantom{00} \\ 36 \phantom{00} \\ \underline{36} \\ 0 \end{array}$$

Quotient = 62  
Remainder = 0

2. (a)  $9999 \div 99$

$$\begin{array}{r} 99 \overline{) 9999} \quad 101 \\ \underline{99} \phantom{00} \\ 99 \phantom{00} \\ \underline{99} \\ 0 \end{array}$$

$\therefore$  Quotient = 101; Remainder = 0

(b) trees in each garden =  $2356 \div 37$   
= 88

$$\begin{array}{r} 37 \overline{) 2356} \quad 88 \\ \underline{296} \phantom{00} \\ 296 \phantom{00} \\ \underline{296} \\ 0 \end{array}$$

$\therefore$  number of trees in each garden is 88

(c)  $4032 \div 72$

$$\begin{array}{r} 72 \overline{) 4032} \quad (56 \\ \underline{360} \\ 432 \\ \underline{432} \\ 0 \end{array}$$

$\therefore$  56 should be multiplied by 72 to get 4032

(d) books can be bought =  $8424 \div 26$

= 324 books

$$\begin{array}{r} 26 \overline{) 8424} \quad (324 \\ \underline{78} \\ 62 \\ \underline{52} \\ 104 \\ \underline{104} \\ 0 \end{array}$$

(e) Cost of each doll =  $22536 \div 24$   
= ₹ 939

$$\begin{array}{r} 24 \overline{) 22536} \quad (939 \\ \underline{216} \\ 93 \\ \underline{72} \\ 216 \\ \underline{216} \\ 0 \\ \times \end{array}$$

### Exercise 5.2

1. (a)  $680 \div 10 = 68$
- (b)  $80900 \div 100 = 809$
- (c)  $467000 \div 1000 = 467$
- (d)  $900000 \div 10000 = 90$
- (e)  $84500000 \div 100 = 845000$
- (f)  $7410000 \div 10000 = 741$

2.

	C	TL	L	TTh	Th	H	T	O
$30 \div 10$								3
$300 \div 10$							3	0
$3000 \div 10$						3	0	0
$30000 \div 10$					3	0	0	0
$300000 \div 10$				3	0	0	0	0
$3000000 \div 10$			3	0	0	0	0	0
$30000000 \div 10$		3	0	0	0	0	0	0

### Exercise 5.3

1. (a)

$$\begin{array}{r}
 36 \overline{) 2947349} \quad (81870 \\
 \underline{288} \\
 67 \\
 \underline{36} \\
 313 \\
 \underline{288} \\
 254 \\
 \underline{252} \\
 29
 \end{array}$$

Verification

$$\begin{aligned}
 \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 &= 36 \times 81870 + 29 = 2947320 + 29 = 2947349
 \end{aligned}$$

(b)

$$\begin{array}{r}
 59 \overline{) 64836921} \quad (1098930 \\
 \underline{59} \\
 583 \\
 \underline{531} \\
 526 \\
 \underline{477} \\
 549 \\
 \underline{531} \\
 182 \\
 \underline{177} \\
 51
 \end{array}$$

Quotient = 1098930; Remainder = 51

Checking

$$\begin{aligned}\text{Divident} &= \text{Divisor} \times Q + R \\ &= 59 \times 1098930 + 51 \\ &= 64836870 + 51 \\ &= 64836921\end{aligned}$$

(c)  $23 \overline{) 175122} ( 7614$

$$\begin{array}{r} 161 \\ \underline{141} \\ 138 \\ \underline{32} \\ 23 \\ \underline{92} \\ 92 \\ \underline{0} \end{array}$$

Quotient = 7614

Remainder = 0

Checking

$$\begin{aligned}\text{Divident} &= \text{Divisor} \times Q + R \\ 175122 &= 23 \times 7614 + 0 \\ 175122 &= 175122\end{aligned}$$

(d)  $58 \overline{) 726908} ( 12532$

$$\begin{array}{r} 58 \\ \underline{146} \\ 116 \\ \underline{309} \\ 290 \\ \underline{190} \\ 174 \\ \underline{168} \\ 116 \\ \underline{52} \end{array}$$

Quotient = 12532

Remainder = 52

Checking

$$\begin{aligned}\text{Divident} &= \text{Divisor} \times Q + R \\ 726908 &= 58 \times 12532 + 52 \\ &= 726856 + 52 \\ &= 726908\end{aligned}$$

(e)  $74 \overline{) 67892} ( 917$

$$\begin{array}{r} 666 \\ \underline{29} \\ 74 \\ \underline{552} \\ 518 \\ \underline{34} \end{array}$$

Quotient = 917

Remainder = 74

Checking

$$\begin{aligned}\text{Divident} &= \text{Divisor} \times Q + R \\ &= 74 \times 917 + 74 \\ &= 67858 + 74 \\ &= 67892\end{aligned}$$

(f)  $86 \overline{) 54386} ( 632$

$$\begin{array}{r} 516 \\ \underline{278} \\ 258 \\ \underline{206} \\ 172 \\ \underline{34} \end{array}$$

Quotient = 632

Remainder = 34

Checking

$$\begin{aligned}\text{Divident} &= \text{Divisor} \times Q + R \\ &= 86 \times 632 + 34 \\ &= 54352 + 34 \\ &= 54386\end{aligned}$$

$$\begin{array}{r}
 \text{(g)} \quad 84 \overline{)1075602} \quad (12804 \\
 \underline{84} \\
 235 \\
 \underline{168} \\
 676 \\
 \underline{672} \\
 402 \\
 \underline{336} \\
 66
 \end{array}$$

Quotient = 12804; Remainder = 66

Checking

$$\begin{aligned}
 \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 1075602 &= 84 \times 12804 + 66 \\
 &= 1075536 + 66 \\
 &= 1075602
 \end{aligned}$$

$$\begin{array}{r}
 \text{(h)} \quad 68 \overline{)458432} \quad (6741 \\
 \underline{408} \\
 504 \\
 \underline{476} \\
 283 \\
 \underline{272} \\
 112 \\
 \underline{68} \\
 44
 \end{array}$$

Quotient = 6741; Remainder = 44

Checking

$$\begin{aligned}
 \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 458432 &= 68 \times 6741 + 44 \\
 &= 458388 + 44 \\
 &= 458432
 \end{aligned}$$

$$\begin{array}{r}
 \text{2. (a)} \quad 69 \overline{)8765419} \quad (127035 \\
 \underline{69} \\
 186 \\
 \underline{138} \\
 485 \\
 \underline{483} \\
 241 \\
 \underline{207} \\
 349 \\
 \underline{345} \\
 4
 \end{array}$$

Quotient = 127035; Remainder = 4

$$\begin{aligned}
 \text{(c)} \quad \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 637428 &= 24 \times \text{Q} + 12 \\
 637416 &= 24 \times \text{Q} \\
 637416 \div 24 &= \text{Q}
 \end{aligned}$$

$$\begin{array}{r}
 \text{(b)} \quad 26 \overline{)789615} \quad (30369 \\
 \underline{78} \\
 96 \\
 \underline{78} \\
 181 \\
 \underline{156} \\
 255 \\
 \underline{234} \\
 21
 \end{array}$$

Quotient = 30369; Remainder = 21

$$\begin{array}{r}
 24 \overline{)637416} \quad (26559 \\
 \underline{48} \\
 157 \\
 \underline{144} \\
 134 \\
 \underline{120} \\
 141 \\
 \underline{120} \\
 216 \\
 \underline{216} \\
 0
 \end{array}$$

∴ Quotient = 26559

$$\begin{aligned}
 \text{(d) Divident} &= \text{Divisor} \times Q + R \\
 &= 47 \times 321 + 13 \\
 &= 15087 + 13 \\
 &= 15100
 \end{aligned}$$

$$\begin{array}{r}
 321 \\
 \times 47 \\
 \hline
 2247 \\
 1284 \times \\
 \hline
 15087
 \end{array}$$

$$\begin{aligned}
 \text{(e) Divident} &= \text{Divisor} \times Q + R \\
 &= 38 \times 524643 + 58 \\
 &= 2000434 + 58 \\
 &= 2000492
 \end{aligned}$$

$$\begin{array}{r}
 52643 \\
 \times 38 \\
 \hline
 421144 \\
 157929 \times \\
 \hline
 2000434
 \end{array}$$

$$\begin{aligned}
 \text{(f) Divident} &= \text{Divisor} \times Q + R \\
 56783 &= 62 \times Q + R
 \end{aligned}$$

$$\begin{array}{r}
 \therefore \qquad 62 \overline{) 56783} \quad (915 \\
 \underline{558} \phantom{00} \\
 98 \phantom{00} \\
 \underline{62} \phantom{00} \\
 363 \phantom{00} \\
 \underline{310} \phantom{00} \\
 53
 \end{array}$$

$$\begin{aligned}
 \therefore \text{ Quotient} &= 915 \\
 \text{ Remainder} &= 53
 \end{aligned}$$

### Exercise 5.4

1. (a)

$$\begin{array}{r}
 3252 \overline{) 5024672} \quad (1546 \\
 \underline{3252} \phantom{00} \\
 17766 \phantom{00} \\
 \underline{16260} \phantom{00} \\
 15067 \phantom{00} \\
 \underline{13008} \phantom{00} \\
 20592 \phantom{00} \\
 \underline{19512} \phantom{00} \\
 1080
 \end{array}$$

$$\begin{aligned}
 \therefore \text{ Quotient} &= 1546 \\
 \text{ Remainder} &= 1080 \\
 \text{ Checking}
 \end{aligned}$$

$$\begin{aligned}
 \text{ Divident} &= \text{Divisor} \times Q + R \\
 &= 3252 \times 1546 + 1080 \\
 &= 5027592 + 1080 \\
 &= 5028672
 \end{aligned}$$

$$\begin{array}{r}
 \text{(b)} \quad 632 \overline{) 96753} \quad ( 153 \\
 \underline{632} \\
 3355 \\
 \underline{3160} \\
 1953 \\
 \underline{1896} \\
 57
 \end{array}$$

Verification

$$\text{Dividend} = \text{Divisor} \times \text{Q} + \text{R}$$

$$\begin{aligned}
 96753 &= 632 \times 153 + 57 \\
 &= 96696 + 57 \\
 &= 96753
 \end{aligned}$$

$$\begin{array}{r}
 \text{(c)} \quad 515 \overline{) 4167620} \quad ( 8092 \\
 \underline{4120} \\
 4762 \\
 \underline{4635} \\
 1270 \\
 \underline{1030} \\
 240
 \end{array}$$

Verification

$$\text{Dividend} = \text{Divisor} \times \text{Q} + \text{R}$$

$$\begin{aligned}
 4167620 &= 512 \times 8092 + 240 \\
 &= 4167380 + 240 \\
 &= 4167620
 \end{aligned}$$

$$\text{(d)} \quad 23021405 \div 148$$

$$\begin{array}{r}
 148 \overline{) 23021405} \quad ( 155550 \\
 \underline{148} \\
 822 \\
 \underline{740} \\
 821 \\
 \underline{740} \\
 814 \\
 \underline{740} \\
 740 \\
 \underline{740} \\
 5
 \end{array}$$

Verification

$$\text{Dividend} = \text{Divisor} \times \text{Q} + \text{R}$$

$$\begin{aligned}
 &= 148 \times 155550 + 5 \\
 &= 23021400 + 5 \\
 23021405 &= 23021405
 \end{aligned}$$

$$\text{(e)} \quad 876543 \div 423$$

$$\begin{array}{r}
 423 \overline{) 876543} \quad ( 2072 \\
 \underline{846} \\
 3054 \\
 \underline{2961} \\
 933 \\
 \underline{846} \\
 87
 \end{array}$$

Verification

$$\text{Dividend} = \text{Divisor} \times \text{Q} + \text{R}$$

$$\begin{aligned}
 &= 423 \times 2072 + 87 \\
 &= 876456 + 87 \\
 876543 &= 876543
 \end{aligned}$$

(f)

$$\begin{array}{r}
 675 \overline{) 554433} \quad ( 821 \\
 \underline{5400} \\
 1443 \\
 \underline{1350} \\
 933 \\
 \underline{675} \\
 258
 \end{array}$$

Verification

$$\text{Dividend} = \text{Divisor} \times \text{Q} + \text{R}$$

$$\begin{aligned}
 &= 675 \times 821 + 258 = 554175 + 258 \\
 554433 &= 554433
 \end{aligned}$$

$$\begin{array}{r}
 \text{(g)} \quad 227 \overline{) 35607520} \left( 156861 \right. \\
 \underline{227} \\
 1290 \\
 \underline{1135} \\
 1557 \\
 \underline{1362} \\
 1955 \\
 \underline{1816} \\
 1392 \\
 \underline{1362} \\
 300 \\
 \underline{227} \\
 73
 \end{array}$$

Verification

$$\begin{aligned}
 \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 &= 227 \times 156861 + 73 \\
 &= 35607447 + 73
 \end{aligned}$$

$$35607520 = 35607520$$

$$\begin{aligned}
 \text{2. (a)} \quad \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 52156789 &= 235 \times 221943 + \text{R} \\
 52156789 &= 52156605 + \text{R} \\
 52156789 - 52156605 &= \text{Remainder} \\
 184 &= \text{Remainder}
 \end{aligned}$$

$$\begin{aligned}
 \text{(c)} \quad \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 &= 321 \times 1234 + 46 \\
 &= 396114 + 46 \\
 &= 396160
 \end{aligned}$$

$$\begin{aligned}
 \text{(d)} \quad \text{Divident} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 4823597 &= \text{Divisor} \times 5008 + 893 \\
 4823597 - 893 &= \text{Divisor} \times 5008 \\
 4822704 &= \text{Divisor} \times 5008 \\
 4822704 \div 5008 &= \text{Divisor}
 \end{aligned}$$

$$\begin{array}{r}
 \text{(h)} \quad 371 \overline{) 86732} \left( 233 \right. \\
 \underline{742} \\
 1253 \\
 \underline{1113} \\
 1402 \\
 \underline{1113} \\
 279
 \end{array}$$

Verification

$$\begin{aligned}
 \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 &= 371 \times 233 + 279 \\
 &= 86443 + 279 \\
 86732 &= 86732
 \end{aligned}$$

$$\begin{aligned}
 \text{(b)} \quad \text{Divident} &= \text{Divisor} \times \text{Q} + \text{R} \\
 &= 835 \times 58841 + 530 \\
 &= 49132235 + 530 \\
 49132675 &= 49132765 \\
 \text{Sum is correct}
 \end{aligned}$$

$$\begin{array}{r}
 5008 \overline{) 7822704} \left( 963 \right. \\
 \underline{45072} \\
 31550 \\
 \underline{30048} \\
 15024 \\
 \underline{15024} \\
 0
 \end{array}$$

$$\therefore \text{Divisor} = 963$$

(e)

$$\begin{array}{r} 425 \overline{) 5632471} \quad (13252 \\ \underline{425} \\ 1382 \\ \underline{1275} \\ 1074 \\ \underline{850} \\ 2247 \\ \underline{2125} \\ 1221 \\ \underline{850} \\ 371 \end{array}$$

Quotient = 13252 ; Remainder = 371

### Exercise 5.5

1. Other number =  $3786006 \div 654$   
= 5789

$$\begin{array}{r} 654 \overline{) 3786006} \quad (5789 \\ \underline{3270} \\ 5160 \\ \underline{4578} \\ 5820 \\ \underline{5232} \\ 5886 \\ \underline{5886} \\ 0 \end{array}$$

3. Money donated by 1 person =  $3406392 \div 782$   
= 4356

987 person donate = ₹  $4356 \times 987$   
= ₹ 4299372

2. Cartons required =  $18241275 \div 563$   
= 32400  
and Apples left = 75

$$\begin{array}{r} 563 \overline{) 18241275} \quad (32400 \\ \underline{1689} \\ 1351 \\ \underline{1126} \\ 2252 \\ \underline{2252} \\ 075 \end{array}$$

$$\begin{array}{r} 782 \overline{) 3406392} \quad (4356 \\ \underline{3128} \\ 2783 \\ \underline{2346} \\ 4379 \\ \underline{3910} \\ 4692 \\ \underline{4692} \\ 0 \end{array}$$

$$\begin{array}{r} 4356 \\ \times 987 \\ \hline 30492 \\ 34848 \times \\ 39204 \times \times \\ \hline 4299372 \end{array}$$

$$\begin{array}{r}
 4. \quad 328 \overline{) 186039} \left( 567 \right. \\
 \underline{1640} \\
 2203 \\
 \underline{1968} \\
 2359 \\
 \underline{2296} \\
 63
 \end{array}$$

∴ 63 should be subtracted from 186039  
So that it is exactly divisible by 328

$$\begin{array}{l}
 5. \text{ Number of years} = 31755 \div 365 \\
 = 87 \text{ years}
 \end{array}$$

$$\begin{array}{r}
 365 \overline{) 31755} \left( 87 \right. \\
 \underline{2920} \\
 2555 \\
 \underline{2555} \\
 0
 \end{array}$$

$$\begin{array}{r}
 6. \text{ sum} \quad 3 \ 4 \ 2 \ 7 \ 8 \ 9 \ 5 \\
 + 8 \ 2 \ 6 \ 1 \ 4 \ 3 \ 9 \\
 \hline
 \underline{11 \ 6 \ 8 \ 9 \ 3 \ 3 \ 4}
 \end{array}$$

$$\begin{array}{r}
 257 \overline{) 11649334} \left( 45483 \right. \\
 \underline{1028} \\
 1409 \\
 \underline{1285} \\
 1243 \\
 \underline{1028} \\
 2153 \\
 \underline{2056} \\
 974 \\
 \underline{771} \\
 203
 \end{array}$$

No sum of 3427895 and 8261439 is not divisible by 257

$$\begin{array}{l}
 7. \text{ Amount contributed by each student} = 342400 \div 856 \\
 = 400 \text{ paise} \\
 \text{or} = ₹4
 \end{array}$$

$$\begin{array}{r}
 856 \overline{) 342400} \left( 400 \right. \\
 \underline{3424} \\
 0
 \end{array}$$

$$\begin{array}{l}
 8. \text{ S.P. of 275 bicycles} = ₹ 479875 \\
 \text{S.P. of 1 bicycle} = ₹ 479875 \div 275 \\
 = 1745
 \end{array}$$

$$\begin{array}{r}
 275 \overline{) 479875} \left( 1745 \right. \\
 \underline{275} \\
 2048 \\
 \underline{1925} \\
 1237 \\
 \underline{1100} \\
 1375 \\
 \underline{1375} \\
 0
 \end{array}$$

$$\begin{aligned} \text{Cost of 1 bicycle} &= ₹ 1745 \\ \text{Cost of 135 bicycles} &= ₹ 1745 \times 135 \\ &= ₹ 235575 \end{aligned}$$

$$\begin{array}{r} 1745 \\ \times 135 \\ \hline 8725 \\ 5235 \times \\ 1745 \times \times \\ \hline 235575 \end{array}$$

9. Cost of 125 watches = ₹ 87,540  
 Cost of 1 watch = ₹ 87,540 ÷ 125  
 = ₹ 700.32

$$\begin{array}{r} 125 \overline{) 87540} \quad ( 700.32 \\ \underline{875} \\ 400 \\ \underline{375} \\ 250 \\ \underline{250} \\ 0 \end{array}$$

10. Cost of 364 microchips = ₹ 1257894  
 Cost of 1 microchip = ₹ 1257894 ÷ 364  
 = ₹ 3455.75  
 Cost of (364 – 136) 228 microchips = ₹ 3455.75 × 228  
 = ₹ 787968

11. greatest number of 7 digits = 9999999  
 greatest number using 3, 7, 4 = 743

$$\begin{array}{r} \therefore \quad 743 \overline{) 9999999} \quad ( 13458 \\ \underline{743} \\ 2569 \\ \underline{2229} \\ 3409 \\ \underline{2972} \\ 4379 \\ \underline{3715} \\ 6649 \\ \underline{5944} \\ 705 \end{array}$$

∴ Quotient = 13458 ; Remainder = 705

12.  $x = 385385 \div 385$   
 = 1001

$$\begin{array}{r} 385 \overline{) 385385} \quad ( 1001 \\ \underline{385} \\ 385 \\ \underline{355} \\ 0 \end{array}$$

## 6. MULTIPLES AND FACTORS

### Exercise-6.1

1. 11, 15, (21), 29, 31, (35), 60, 135, (154), 165, (175), 191, (203), 257, 263
2. (a) 5 : 10, 15, 20, 25, 30, 35      (b) 9 : 18, 27, 36, 45, 54, 63  
(c) 11 : 22, 33, 44, 55, 66, 77      (d) 23 : 46, 69, 92, 115, 138, 161
3. (a) (i)  $2 + 4 + 3 + 8 + 0 = 23$  is not divisible by 9  
 $\therefore 24380$  is not divisible by 9  
(ii)  $5 + 2 + 4 + 9 + 1 = 21$  is divisible by 9  
 $\therefore 52491$  is not divisible by 9  
(iii)  $6 + 7 + 5 + 4 + 5 = 27$  is divisible by 9  
 $\therefore 67545$  is divisible by 9  
(iv)  $1 + 3 + 4 + 2 + 3 = 13$  is not divisible by 9  
 $\therefore 13423$  is not divisible by 9  
(v)  $9 + 8 + 3 + 6 + 5 = 31$  is not divisible by 9  
 $\therefore 98365$  is not divisible by 9  
(b) (i) 326(61)  
 $\therefore$  last two digits are not divisible by 4  
 $\therefore 32261$  is not divisible by 4  
 $\therefore 32261$  is not divisible by 12  
(ii) 180(27)  
 $\therefore$  last two digits are not divisible by 4  
 $\therefore 18027$  is not divisible by 4  
 $\therefore 18027$  is not divisible by 12  
(iii) 559(17)  
 $\therefore$  last two digits are not divisible by 4  
 $\therefore 55917$  is not divisible by 4  
 $\therefore 55917$  is not divisible by 12  
(iv) 713(82)  
 $\therefore$  last two digits are not divisible by 4  
 $\therefore 71382$  is not divisible by 4  
 $\therefore 71382$  is not divisible by 12  
(v) 543(00)  
 $\therefore$  last two digits are divisible by 4  
 $\therefore 54300$  is divisible by 4  
 $5 + 4 + 3 + 0 + 0 = 12$  is divisible by 3  
 $\therefore 54300$  is divisible by 3  
 $54300$  is divisible by 12 because  $54300$  is divisible by 3 and 4 both

4. (a) 36 is divisible by 9  $\therefore$  9 is factor of 36  
 (b) 216 is not divisible by 13  $\therefore$  13 is not the factor of 216  
 (c) 125 is divisible by 25  $\therefore$  25 is factor of 125
5. (a) factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24  
 (b) factors of 36 = 1, 2, 3, 4, 6, 12, 18, 36  
 (c) factors of 108 = 1, 2, 3, 4, 6, 9, 12, 18, 27, 54, 108  
 (d) factors of 225 = 1, 3, 5, 9, 15, 25, 45, 75, 225
6. (a) factors of 14 = 1, 2, 7, 14  
 factors of 35 = 1, 5, 7, 35  
 common factors = 1, 7  
 (b) factors of 27 = 1, 3, 9, 27  
 factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36  
 common factors = 1, 3, 9  
 (c) factors of 48 = 1, 2, 3, 4, 6, 8, 12, 16, 24, 48  
 factors of 32 = 1, 2, 4, 8, 16, 32  
 common factors = 1, 2, 4, 8, 16  
 (d) factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36  
 factors of 45 = 1, 3, 5, 9, 45  
 common factors = 1, 3, 9
7. (a) Every number is a multiple of itself.  
 (b) Every multiple of a number is greater than or equal to the number.  
 (c) Multiples of a number have no end.  
 (d) The first multiple of every number is number itself.  
 (e) If a number is a multiple of two numbers, it is called a common multiple.  
 (f) The greatest factor of every number is the number itself.

### Exercise 6.2

1. 36 composite number  
 37 prime number  
 31 prime number  
 59 prime number  
 29 prime number
2. (a) factors of 15 = 1, 3, 5, 15  
 factors of 33 = 1, 3, 11, 33  
 common factors = 1, 3  
 $\therefore$  15, 33 are not co-prime  
 (b) factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24  
 factors of 29 = 1, 29  
 common factors = 1  
 $\therefore$  24 and 29 are co-prime  
 (c) factors of 34 = 1, 2, 17, 34  
 factors of 57 = 1, 3, 19, 57  
 common factors = 1  
 34 and 57 are co-prime

- (d) factors of 18 = 1, 2, 3, 6, 9, 18  
 factors of 67 = 1, 67  
 common factors = 1  
 $\therefore$  18 and 67 are co-prime
- (e) factors of 14 = 1, 2, 7, 14  
 factors of 52 = 1, 2, 13, 26, 52  
 common factors = 1, 2  
 $\therefore$  14 and 52 are not co-prime
3. (a) (13, 31), (73, 37), (79, 97) are such prime numbers  
 (b) prime numbers between 20 and 50 are 23, 29, 31, 37, 41, 43, 47  
 (c) 11, 13, 17, 19, 31, 37 are such prime numbers whose sum of digits divisible by 2

### Exercise 6.3

1. (a) 1218 is divisible by 2  $\therefore$  it has even number at one place  
 $\therefore 1 + 2 + 1 + 8 = 12$  is divisible by 3  $\therefore$  1218 is divisible by 3  
 12  $\overline{)18}$   
 $\therefore$  last two digits are not divisible by 4  
 $\therefore$  1218 is not divisible by 4  
 121  $\overline{)8}$   
 $\therefore$  last digit is not 0 or 5 therefore  
 $\therefore$  1218 is not divisible by 5  
 1218  
 $\therefore$  1218 is divisible by both 2 and 3  
 $\therefore$  1218 is divisible by 6  
 1  $\overline{)218}$   
 $\therefore$  last three digits are not divisible by 8  
 $\therefore$  1218 is not divisible by 8  
 $1 + 2 + 1 + 8 = 12$  is not divisible by 9  
 $\therefore$  1218 is not divisible by 9  
 1218 not have 0 at ones place  $\therefore$  1218 is not divisible by 10
- (b) 823  $\overline{)2}$  is divisible by 2  $\therefore$  it has even number at ones place  
 $8 + 2 + 3 + 2 = 15$  is divisible by 5  $\therefore$  8232 is divisible by 3  
 82  $\overline{)32}$  last two digits are divisible by 4  $\therefore$  8232 is divisible by 4  
 82  $\overline{)32}$  one place digit is neither 0 or 5  $\therefore$  8232 is not divisible by 5  
 8232 is divisible by 6  $\therefore$  It is divisible by both 2 and 3  
 8  $\overline{)232}$  is divisible by 8  $\therefore$  last three digits are divisible by 8  
 $8 + 2 + 3 + 2 = 15$  is not divisible by 9  $\therefore$  8232 is not divisible by 9  
 8  $\overline{)232}$  is not divisible by 10  $\therefore$  It not have zero at unit place
- (c) 5920 is divisible by 2  $\therefore$  it has even number at ones place  
 $5 + 9 + 2 + 0 = 16$  is not divisible by 3  $\therefore$  5920 is not divisible by 3

59(20) is divisible by 4  $\because$  Last two digits are divisible by 4  
 5920 is divisible by 5  $\because$  Last digit is 0  
 5920 is not divisible by 6  $\because$  It is not divisible by 3  
 5(920) is divisible by 8  $\because$  Last three digits are divisible by 8  
 $5+9+2+0=16$  is not divisible by 9  $\therefore$  5920 is not divisible by 9  
 5920 is divisible by 10  $\because$  Last digit is 0

- (d) 2928 is divisible by 2  $\because$  it has even number at ones place  
 $2+9+2+8=21$  is divisible by 3  $\therefore$  2928 is divisible by 3  
 2928 is divisible by 4  $\because$  Last two digits are divisible by 4  
 2928 is not divisible by 5 it not have 0 or 5 at ones place  
 2928 is divisible by 6  $\because$  it is divisible by 2 and 3 both  
 2(928) is divisible by 8 Last three digits are divisible by 8

$\therefore 2+9+2+8=21$  is not divisible by 9  
 2928 is not divisible by 10  $\because$  it not have 0 at unit place.

- (e) 3644 is divisible by 2  $\because$  it has even number at ones place  
 $3+6+4+4=17$  is not divisible by 3  $\therefore$  3644 is not divisible by 3  
 36(44) is divisible by 4  $\because$  last two digits are divisible by 4  
 3644 is not divisible by 5  $\because$  it not have zero or 5 at ones place  
 3644 is not divisible by 6  $\because$  it is not divisible by 3  
 3644 is not divisible by 8 because last three digits are not divisible by 8  
 $3+6+4+4=17$  is not divisible by 9  $\therefore$  3644 is not divisible by 9  
 3644 is not divisible by 10 it not have 0 at ones place

- (f) 4843(8) is divisibility 2 it has even number at ones place  
 $4+8+4+3+8=27$  is divisible by 3  $\therefore$  48438 is divisible by 3  
 484(38) is not divisible by 4  $\because$  last two digits are not divisible by 4  
 4843(8) is not divisible by 5  $\because$  it not have 0 or 5 at ones place  
 48438 is divisible by 6  $\because$  it is divisibility by 2 and 3 both  
 48(438) is not divisible by 8  $\because$  last three digits are not divisible by 8  
 $4+8+4+3+8=27$  is divisible by 9  $\therefore$  48438 is divisible by 9  
 48438 is not divisible by 10  $\because$  it not have 0 at ones place

2. 9000, 1438, 7596, 20014 are divisible by 2 all of them have even number at ones place.

3. (a)  $3+1+2+3=8$  is not divisible by 3  $\therefore$  3123 is not divisible by 3  
 (b)  $4+8+2+6=20$  is not divisible by 3  $\therefore$  4826 is not divisible by 3  
 (c)  $5+2+5+9+6=27$  is divisible by 3  $\therefore$  52596 is divisible by 3  
 (d)  $8+4+4+6+3=25$  is not divisible by 3  $\therefore$  84463 is not divisible by 3  
 (e)  $7+6+3+2+1=19$  is not divisible by 3  
 $\therefore$  76321 is not divisible by 3

4. (a) 486 is not divisible by 4  $\because$  last two digits are not divisible by 4  
 (b) 512 is divisible by 4  $\because$  last two digits is divisible by 4