

Composite Mathematics-4

2.

Addition

Exercise 2A-2B

Do it yourself.

Exercise 2C

- Population of first block = 25724
Population of second block = 24836
Population of third block = 26507
Population of fourth block = 18325
Total population of all the blocks of colony
 $= 25724 + 24836 + 26507 + 18325 = \mathbf{95392}$
Thus, the total population of the colony is 95392.
- Number of books of Hindi sells = 343851
Number of books of English sells = 826551
Number of books of Mathematics sells = 732151
The total number of books sold by publisher
 $= 343851 + 826551 + 732151 = \mathbf{1902553}$
Thus, total number of books sold by publisher is 1902553.
- Defeated candidate received votes = 34576
Winning candidate received votes = $12356 + 34576 = \mathbf{46932}$
Thus, winning candidate received 46932 votes.
- Greatest five digit number = 99999
Smallest seven digit number = 1000000
Sum of greatest five digit number and smallest seven digit number
 $= 99999 + 1000000 = \mathbf{1099999}$
Thus, sum of greatest five digit number and smallest seven digit number is 1099999.
- Income of Naman during a certain month = ₹ 34526
His income increased by next month = ₹ 18794
Then, his income in next month = $\text{₹ } 34526 + \text{₹ } 18794$
 $= \text{₹ } \mathbf{53320}$
He earn in these two months = $\text{₹ } 34526 + \text{₹ } 53320$
 $= \text{₹ } \mathbf{87846}$
Thus, Naman's income in next month is ₹ 53320 and he earns ₹ 87846 during these two months.
- Number of workers in company 'A' = 26751
Number of workers in company 'B' = 25421

$$\begin{aligned} \text{Total number of workers in both company} &= 26751 + 25421 \\ &= \mathbf{52172} \end{aligned}$$

Thus, total number of workers in both companies is 52172.

7. Cost of a DVD player = ₹ 8645
Then, cost of a TV set = ₹ 8645 + ₹ 8976 = 17621
Total cost of a DVD player and TV set = ₹ 8645 + ₹ 17621
= ₹ **26266**

Thus, total cost of a DVD player and TV set is ₹ 26266.

8. Number of pastries sold by a cafe = 363581
Number of burgers sold by a cafe = 357460
Cafe sell altogether = 363581 + 357460 = **721041**
Thus, cafe sell altogether 721041 items.

9. Worth of a painting = ₹ 145006
Worth of a bicycle = ₹ 15280
Total money spend by Rajesh = ₹ 145006 + ₹ 15280
= ₹ **160286**

Thus, Rajesh spend ₹ 160286.

10. Factory produced washing machines in first year = 237121
Factory produced washing machines in second year = 352631
Total machine produced in these two years
= 237121 + 352631 = **589752**
11. Total money in Palak's bank account = ₹ 23475
She deposited in account = ₹ 24684
Now total amount in her bank account = ₹ 23475 + ₹ 24684
= ₹ **48159**

Thus, Palak had ₹ 48159 in her bank account.

12. Number of people who saw magic show on Saturday = 126844
Number of people who saw magic show on Sunday = 352188
Total number of people who saw the magic show
= 126844 + 352188 = **479032**

Thus, 479032 people saw the magic show on these two days.

13. Number of cows in a village = 846817
Number of buffaloes in a village = 632381
Other cattle in a village = 326781
Total number of cattle in the village
= 846817 + 632381 + 326781
= **1805979**

Thus, total number of cattles in the village is 1805979.

14. Total number of sugar bags sold by shopkeeper = 843567
Total number of floor bags sold by shopkeeper = 152889

Thus, 19122 cakes were left.

2. Price of a scooter = ₹ 39850

Price of a motorcycle = ₹ 53500

Difference = ₹ 53500 – ₹ 39850 = ₹ **13650**

Thus, price of a motorcycle is ₹ 13650 more than price of a scooter.

3. Let x be subtracted from 72245 to get 37689

Then $72245 - x = 37689$

$x = 72245 - 37689$

$x = \mathbf{34556}$

Thus, subtracted number is 34556.

4. Do it yourself. **Ans.** 1,99,481

5. Total length of wire = 30000 m

Cut off length of wire = 17584 m

Length of remaining wire = 30000 m – 17584 m

= **12416 m**

Thus, 12416 m wire remained.

6. Cost of a dress = ₹ 12650

Short money for dress by = ₹ 1285

Then, money she had with her = ₹ 12650 – ₹ 1285 = ₹ **11365**

Thus, Ekta had ₹ 11365 with her.

7. Population of a village previously = 27568

Population after ten years = 56479

Population increased in ten years = 56479 – 27568 = **28911**

There was 28911 number of people increased in ten years.

8. Amount deposited in bank by Sanjay = ₹ 862001

Amount withdraw by Sanjay from the bank = ₹ 355008

Amount of money left in account = ₹ 862001 – ₹ 355008

= ₹ **506993**

There is ₹ 506993 in Sanjay's bank account.

9. Do it yourself. **Ans.** 16,850

10. Cost of an oven = ₹ 14315

Cost of a machine = ₹ 29800

Difference of their cost = ₹ 29800 – ₹ 14315 = ₹ **15485**

Cost of machine is ₹ 15485 more than cost of an oven.

11. Total population of a village = 75316

Number of females = 48429

Number of males = 75316 – 48429 = **26887**

There are 26887 males in the village.

12. Let x be added to 322648 to get 437089

Then, $322648 + x = 437089$

$$x = 437089 - 322648$$

$$x = \mathbf{114441}$$

Thus, 114441 is the required number.

13. Total number of students appeared at an examination = 82644

$$\text{Number of failed students} = 26857$$

$$\text{Number of passed students} = 82644 - 26857 = \mathbf{55787}$$

Thus, 55787 students passed.

14. Sum of two numbers = 853648

$$\text{One of them number} = 537481$$

$$\text{Then other number} = 853648 - 537481$$

$$= \mathbf{316167}$$

Thus, 316167 is other number.

15. Money won by Neeraj in a lottery = ₹ 500000

$$\text{Price of car bought by Neeraj} = ₹ 175000$$

$$\text{Price of house bought by Neeraj} = ₹ 228000$$

$$\text{Donate money for charity} = ₹ 50000$$

Then, remained money deposited in bank

$$= ₹ 500000 - ₹ 175000 - ₹ 228000 - ₹ 50000 = ₹ \mathbf{47000}$$

Neeraj deposited ₹ 47000 in bank.

16. Total population of a town = 275800

$$\text{Number of men} = 125780$$

$$\text{Number of women} = 110575$$

$$\text{Then, number of children} = 275800 - 125780 - 110575$$

$$= \mathbf{39445}$$

Thus, 39445 children are in town.

17. Let x be subtracted from 750001 to get 347589

$$\text{Then } 750001 - x = 347589$$

$$x = 750001 - 347589$$

$$x = \mathbf{402412}$$

Thus, 402412 is the required number.

Multiple Choice Questions

Do it yourself.

Revision Exercise

- Do it yourself. **Ans.** (i) 88,403 (ii) 1,34,570 (iii) 1,58,393 (iv) 1,16,564
- Do it yourself. **Ans.** (i) 6298 (ii) 8878 (iii) 18988
- Do it yourself. **Ans.** (i) 17,355 (ii) 34,854 (iii) 22,756
- Do it yourself. **Ans.** 45,869
- Do it yourself. **Ans.** 14,578

6. Do it yourself. **Ans.** (i) 1,22,458 (ii) 2,02,515
7. Do it yourself. **Ans.** (i) 19789 (ii) 29899 (iii) 43829
8. Do it yourself. **Ans.** (i) 37889 (ii) 8136 (iii) 16876
9. Total population of town = 64935
 Number of males = 35947
 \therefore Number of females = $64935 - 35947 = \mathbf{28988}$
 There are 28988 females in the town.
10. Books of mathematics published = 25000
 Books left at the end of the year = 4374
 Number of book sold = $25000 - 4374 = \mathbf{20626}$
 Total of 20626 books were sold.

4. Multiplication

Exercise 4A-4B

Do it yourself.

Exercise 4C

1. Number of packets of milk sold by shopkeeper = 16520
 Cost of one packet of milk = ₹ 25
 Cost of 16520 packets of milk = $16520 \times 25 = \mathbf{₹ 413000}$
 Shopkeeper get ₹ 413000 at the end.
2. Number of marbles in a sack = 3264
 Number of total sack = 28
 Number of marbles in 28 sack = $3264 \times 28 = \mathbf{91392}$
 There are 91392 marbles in 28 such sack.
3. Cost of a toaster = ₹ 1750
 Number of toaster bought by shopkeeper = 50
 Then amount paid by shopkeeper for 50 toaster
 $= ₹ 1750 \times 50 = \mathbf{₹ 87500}$
 The shopkeeper will pay ₹ 87500 for 50 toasters.
4. Total distance travelled by plane in one hour = 2486 km
 Total travel time = 18 hours
 Distance travelled in 18 hours = $2486 \times 18 = \mathbf{44748 \text{ km}}$
5. Total number of ₹ 2000 notes = 10
 Total number of ₹ 500 notes = 19
 Total amount of ₹ 2000 notes = $10 \times 2000 = 20000$
 Total amount of ₹ 500 notes = $19 \times 500 = 9500$
 Total amount = $20000 + 9500 = \mathbf{₹ 29500}$

6. Number of crates buy by wholesaler = 65
 Cost price per crate = ₹ 285
 Amount to be paid = ₹ 285 × 65 = ₹ 18525
 Selling price per crate = ₹ 324
 Then, wholesaler will receive money = ₹ 324 × 65 = ₹ **21060**
 So, the wholesaler will pay ₹ 18525 for 65 crates of mangoes and will receive ₹ 21060 for 65 crates of mangoes.
7. Number of apple bags = 120
 Number of apples in each bag = 2121
 Number of apples in 120 bags = 2121 × 120 = **254520**
 There are 254520 apples in 120 bags.
8. Number of hankies in a packet = 144
 Total packets = 275
 Hankies in 275 packets = 144 × 275 = **39600**
 There are 39600 hankies in 275 such packets.
9. Total floors in society = 19
 Number of people on each floor = 32701
 Total number of people in the society = 32701 × 19 = **621319**
 There are 621319 people in the society.
10. Number of chalk-sticks in a box = 48
 Total number of box of chalk-sticks = 1964
 Then, total number of chalk-sticks = 1964 × 48
 = **94272**
 Thus, there are 94272 chalk-sticks in 1964 box.
11. Do it yourself. **Ans.** 16,758
12. Number of flower plants in a row = 31250
 Number of trees in a row = 78178
 Total number of rows = 15
 Then, total number of flower plants in 15 such rows
 = 31250 × 15 = **468750**
 Total number of trees in 15 such rows = 78178 × 15 = 1172670
 Sum of flower plants and trees of 15 rows
 = 468750 + 1172670 = **1641420**
13. Cost of one car = ₹ 324230
 Number of cars = 25
 Total cost of 25 cars = ₹ 324230 × 25 = ₹ **8105750**
 Thus, cost of 25 cars are = ₹ 8105750
14. Production of boxes per day = 3500
 Number of days in March = 31
 Then, number of boxes produce in March = 3500 × 31 = 108500

Number of days in April = 30

Then, number of boxes produce in April = $3500 \times 30 = 105000$

Total number of boxes produced in March and April

$$= 108500 + 105000 = \mathbf{213500}$$

There will be 213500 boxes produced in March and April.

- 15.** Number of students = 8552

Number of toffees distributed each students = 4

Total number of toffees distributed between students

$$= 8552 \times 4 = 34208$$

Number of teachers = 25

Number of toffees distributed each teacher = 4

Total number of toffees distributed between teachers

$$= 25 \times 4 = 100$$

Total number of toffees distributed between teachers and students = $34208 + 100 = \mathbf{34308}$

Thus, Aman distribute 34308 toffees.

- 16.** Number of trees planted everyday = 273

Number of days in leap year = 366

Total number of trees will be planted in a leap year

$$= 273 \times 366 = \mathbf{99918}$$

There will be 99918 trees planted in a leap year.

- 17.**

Price of a chair = ₹ 265

Number of chairs = 235

Total cost of 235 chairs = ₹ $265 \times 235 = ₹ \mathbf{62275}$

Thus, cost of 235 chairs is ₹ 62275.

Multiple Choice Questions

Do it yourself.

Revision Exercise

- 1.** to **6.**; Do it yourself.

- 7.** Total number of sacks of rice in stock = 12543

Amount of rice in each sack = 15 kg

Total amount of rice in all sacks = 12543×15

$$= \mathbf{188145 \text{ kg}}$$

There is total 188145 kg of rice in all sacks.

- 8.** Number of ball pens in a carton = 144

Total number of cartons = 85

Total number of ball pens = $144 \times 85 = \mathbf{12240}$

There are 12240 ball pens in 85 cartons.

- 9.** Number of hankies in a packet = 576

Total packets = 1225

Total amount of donation = $576 \times 1255 = ₹ 705600$

There were total of ₹ 705600 hankies.

10. Total distance travelled by jet plane in an hour = 1250 km
Total distance travelled in 18 hours = $1250 \times 18 = \mathbf{22500 \text{ km}}$
Jet travels 22500 km in 18 hours.

5.

Division

Exercise 5A-5C

Do it yourself.

Exercise 5D

1. Cost of a watch = ₹ 935
Garima paid money for purchase watch = ₹ 25245
Number of watches she purchased = $25245 \div 935$
$$= \frac{25245}{935} = \mathbf{27}$$
- Thus, Garima purchased 27 watches.
2. Number of books = 2584
Number of shelves = 8
Then, number of books in each shelf = $2584 \div 8 = \frac{2584}{8} = \mathbf{323}$
- Thus, number of books in each shelf is 323.
3. Number of flowers = 6288
Number of crates = 8
Flowers in each crate = $6288 \div 8 = \frac{6288}{8} = \mathbf{786}$
- There will be 786 flowers in each crate.
4. Company manufacturers scooter = 99831
Number of days = 311
Number of scooter manufactures in one day
$$= 99831 \div 311 = \frac{99831}{311} = \mathbf{321}$$
- There are 321 scooters manufactures in one day.
5. Number of flags hoisted = 8289
Number of cities = 10
Number of flags hoisted in each city
$$= 8289 \div 10 = \frac{8289}{10}$$

$$= \mathbf{828 \text{ flags and } 9 \text{ flags left over}}$$

Thus, 828 flags were hoisted in each city and 9 flags were left over.

6. Cost of gold chain purchased by Lipika = ₹ 33832

Number of installments = 4

Then, she pay amount in each installments

$$= 33832 \div 4 = \frac{33832}{4} = \text{₹ } \mathbf{8458}$$

Thus, Lipika paid ₹ 8458 in each installments.

7. Number of sold tickets = 1146

Number of sections in auditorium = 6

Number of people sitting in each section

$$= 1146 \div 6 = \frac{1146}{6} = \mathbf{191}$$

Thus, 191 people sitting in each section.

8. Pins produces in a day = 19998

Number of boxes = 22

$$\text{Pins packed in each box} = 19998 \div 22 = \frac{19998}{22} = \mathbf{909}$$

Thus, number of pins in each box is 909.

9. Number of tins of fruit juice = 3696

Number of containers = 7

Then, number of tins were put in each container

$$= 3696 \div 7 = \frac{3696}{7} = \mathbf{528}$$

Thus, 528 tins were put in each container.

10. Withdrew amount by Sanjay = ₹ 27500

Number of ₹ 100 notes in withdrew amount

$$= 27500 \div 100 = \frac{27500}{100} = \mathbf{275}$$

Thus, bank gave 275 notes to Sanjay.

11. Number of books in library = 80770

Capacity of each almirah to hold books = 985

Number of required almirah to hold books

$$= 80770 \div 985 = \frac{80770}{985} = \mathbf{82}$$

12. Withdrew amount by Mr. Sandeep = ₹ 12400

He kept aside amount = ₹ 4200

Remained amount = ₹ 12400 – ₹ 4200 = ₹ 8200

Remained money divided among 5 family members then each

$$\text{member get} = 8200 \div 5 = \frac{8200}{5} = \text{₹ } \mathbf{1640}$$

- 13.** Cost of a notebook = ₹ 10
 Cost of a book is thrice, then cost of book = ₹ $10 \times 3 = ₹ 30$
 Cost of 3 books = ₹ $30 \times 3 = ₹ 90$
 Cost of 5 notebook = ₹ $10 \times 5 = ₹ 50$
 Total cost of 3 books and 5 notebooks = ₹ $90 + ₹ 50$
 = ₹ **140**
- 14.** Number of flowers used for making garland = 16
 Number of flowers used for decorating flower vase = $\frac{16}{2} = 8$
 Number of flowers used for making 10 garlands = $16 \times 10 = 160$
 Number of flowers used for decorating 5 vases = $8 \times 5 = 40$
 Total flowers used = $160 + 40 = \mathbf{200}$
 Total of 200 flowers are used.
- 15.** Number of people seated in stadium = 83974
 Number of people can sit in a row = 242
 Number of rows in the stadium = $83974 \div 242 = \frac{83974}{242} = \mathbf{347}$
 Thus, the total number of rows in the stadium is 347.
- 16.** Cost of tables = ₹ 8085
 Number of tables = 7
 Cost of each table = $8085 \div 7 = \frac{8085}{7} = ₹ \mathbf{1155}$
 Thus, cost of each table is ₹ 1155.

Multiple Choice Questions

Do it yourself.

Revision Exercise

- 1.** to 7.; Do it yourself.
- 8.** Total number of trees in a garden = 1887
 Number of rows = 37
 Number of trees in each row = $1887 \div 37 = \frac{1887}{37} = \mathbf{51 \text{ trees}}$
 There are 51 trees in each row.
- 9.** Total train fare = ₹ 6494
 Number of persons = 34
 Fare of one person = $6494 \div 34 = \frac{6494}{34} = ₹ \mathbf{191}$
 Fare cost of each person is ₹ 191.
- 10.** Total number of books = 5559
 Total number of shelves = 51

$$\begin{aligned}\text{Number of books in each shelf} &= 5559 \div 51 = \frac{5559}{51} \\ &= \mathbf{109 \text{ books}}\end{aligned}$$

There are 109 books in each shelf.

$$\begin{aligned}\mathbf{11.} \quad \text{Load that one truck can take} &= 68 \text{ bags} \\ \text{Total load} &= 4896 \text{ bags} \\ \text{Number of trucks required} &= 4896 \div 68 = \frac{4896}{68} \\ &= \mathbf{72 \text{ trucks}}\end{aligned}$$

Total trucks needed are 72.

$$\begin{aligned}\mathbf{12.} \quad \text{Total cost of shirts} &= ₹ 8832 \\ \text{Number of shirts} &= 23 \\ \text{Then, cost of each shirt} &= 8832 \div 23 = \frac{8832}{23} = ₹ \mathbf{384}\end{aligned}$$

Thus, cost of each shirt is ₹ 384.

$$\begin{aligned}\mathbf{13.} \quad \text{Number of students in a school} &= 2898 \\ \text{Number of rows} &= 46 \\ \text{Number of students in each row} &= 2898 \div 46 = \frac{2898}{46} = \mathbf{63}\end{aligned}$$

Thus, 63 students are in each row.

6. Unitary Method

Exercise 6

- Cost of 12 kg rice = ₹ 5400

Then, cost of 1 kg rice = $\frac{5400}{12} = ₹ 450$

Cost of 23 kg rice = $450 \times 23 = ₹ \mathbf{10350}$

Thus, cost of 23 kg rice is ₹ 10350.
- Do it yourself. **Ans.** ₹ 5,440
- Number of locks produces in 7 days = 34300

Then, number of locks produces in 1 day = $\frac{34300}{7} = 4900$

Number of locks will produce in 14 days = 4900×14

= 68600

There will be 68600 locks produce in 14 days.
- Price of 5 pens = ₹ 125

Then, price of 1 pen = $\frac{125}{5} = ₹ 25$

Price of 8 pens = $25 \times 8 = ₹ \mathbf{200}$

5. Price of 3 packets of biscuits = ₹ 24
 Then, price of 1 packet of biscuits = $\frac{24}{3} = ₹ 8$
 Required money to buy 7 packets = $8 \times 7 = ₹ 56$
 Thus, ₹ 56 required money to buy 7 packets of biscuits.
6. Earning of worker in 4 days = ₹ 852
 Then, earning of worker in 1 day = $\frac{852}{4} = ₹ 213$
 He will earn in 7 days = $₹ 213 \times 7 = ₹ 1491$
7. Cost of 4 breads = ₹ 88
 Then, cost of 1 bread = $\frac{88}{4} = ₹ 22$
 Cost of 7 such breads = $₹ 22 \times 7 = ₹ 154$
 Thus, cost of 7 breads is ₹ 154.
8. Train covers distance in 4 hours = 272 km
 Train will cover distance in 1 hour = $\frac{272}{4} = 68$ km
 It will cover distance in 7 hours = $68 \times 7 = 476$ km
 Thus, train will cover 576 km distance in 7 hours.
9. Bus covers distance in 6L petrol = 72 km
 It will cover distance in 1L petrol = $\frac{72}{6} = 12$ km
 It will cover distance in 16L petrol = $12 \times 16 = 192$ km
 Thus, bus will cover 192 km in 16L petrol.
10. Cost of 1 quintal (100 kg) of wheat = ₹ 1800
 Then, cost of 1 kg of wheat = $\frac{1800}{100} = ₹ 18$
 Cost of 40 kg of wheat = $18 \times 40 = ₹ 720$
 Thus, cost of 40 kg of wheat is ₹ 720.
11. Price of 1 gross of pencils = ₹ 576
 1 gross = 144
 or price of 144 pencils = ₹ 576
 Then, price of 1 pencil = $\frac{576}{144} = ₹ 4$
 Price of 60 pencils = $4 \times 60 = ₹ 240$
 Thus, price of 60 pencils is ₹ 240.
12. Carrying capacity of 3 planes = 1155 passengers
 Then, carrying capacity of 1 plane = $\frac{1155}{3} = 385$ passengers
 Now, carrying capacity of 5 planes = $385 \times 5 = 1925$ passengers
 Thus, 5 planes can be carried 1925 passengers.

- 13.** Number of screws produce in 3 days = 3840
 Then, number of screws produce in 1 day = 1280
 In 20 days factory produces = $1280 \times 20 = \mathbf{25600}$ screws
 Thus, factory produces 25600 screws in 20 days.
- 14.** Factory can make cars in 15 days = 1620 cars
 Then, factory will make cars in 1 day = $\frac{1620}{15} = 108$ cars
 Factory can be made cars in 25 days = $108 \times 25 = \mathbf{2700}$ cars
 Thus, factory can make 2700 cars in 25 days.
- 15.** Number of bottles in 7 crates = 140
 Then, number of bottles in 1 crate = $\frac{140}{7} = 20$
 Number of bottles in 16 crates = $20 \times 16 = \mathbf{320}$ bottles
 Thus, number of bottles in 20 crates is 320.

Multiple Choice Questions

Do it yourself.

Revision Exercise

- 1.** Cost of 5 litre milk = ₹ 85
 Cost of 1 litre milk = $85 \div 5 = ₹ 17$
 Cost of 8 litre milk = $17 \times 8 = ₹ \mathbf{136}$
 Cost of 8 litre milk is ₹ 136.
- 2.** Cost of 12 notebooks = ₹ 48
 Cost of 1 notebook = $48 \div 12 = ₹ 4$
 Cost of 15 notebooks = $4 \times 15 = ₹ \mathbf{60}$
 Cost of 15 notebooks is ₹ 60.
- 3.** 1 dozen = 12 units
 1 dozen or 12 pencils cost = ₹ 36
 1 pencil cost = $36 \div 12 = ₹ 3$
 Cost of 16 pencils = $3 \times 16 = ₹ \mathbf{48}$
 Thus, cost of 16 pencils is ₹ 48.
- 4.** Cost of 8 m cloth = ₹ 176
 Cost of 1 m cloth = $176 \div 8 = ₹ 22$
 Cost of 5 m cloth = $22 \times 5 = ₹ \mathbf{110}$
 Cost of 5 m cloth is ₹ 110.
- 5.** Cost of 4 kg of sugar = ₹ 60
 Cost of 1 kg of sugar = $60 \div 4 = ₹ 15$
 Cost of 10 kg of sugar = $15 \times 10 = ₹ \mathbf{150}$
 Thus, cost of 10 kg of sugar is ₹ 150.
- 6.** Cost of 5 bundles of sugarcane = ₹ 80

$$\text{Cost of 1 bundle of sugarcane} = 80 \div 5 = ₹ 16$$

$$\text{Cost of 3 bundles of sugarcane} = 16 \times 3 = ₹ 48$$

Cost of 3 bundles of sugarcane is ₹ 48.

7. Cost of 15 kg of vegetable oil = ₹ 465
Cost of 1 kg of vegetable oil = $465 \div 15 = ₹ 31$
Cost of 4 kg of vegetable oil = $31 \times 4 = ₹ 124$

Cost of 4 kg of vegetable oil is ₹ 124.

8. With 15 L of petrol car runs = 285 km
With 1 L of petrol car runs = $285 \div 15 = 19$ km
With 10 L of petrol car runs = $19 \times 10 = 190$ km

With 10 L of petrol car runs 190 km.

7. Characteristics of Multiples and Factors

Do it yourself.

8. Highest Common Factor (HCF)

Exercise 8A

Do it yourself.

Exercise 8B

1. (i) The HCF of 80 and 60

2	80, 60
2	40, 30
5	20, 15
	4, 3

All common prime factors of 80 and 60 = $2 \times 2 \times 5$

$$\text{HCF} = 20$$

Thus, the HCF of 80 and 60 is 20.

- (ii) The HCF of 72 and 90

2	72, 90
3	36, 45
3	12, 15
	4, 5

All common prime factors of 72 and 90 = $2 \times 3 \times 3$

$$\text{HCF} = 18$$

Thus, the HCF of 72 and 90 is 18.

(iii) The HCF of 80 and 100

2	80, 100
2	40, 50
5	20, 25
	4, 5

All common prime factors of 80 and 100 = $2 \times 2 \times 5$

$$\text{HCF} = \mathbf{20}$$

Thus, the HCF of 80 and 100 is 20.

(iv) The HCF of 75 and 100

5	75, 100
5	15, 20
	3, 4

All common prime factors of 75 and 100 = 5×5

$$\text{HCF} = \mathbf{25}$$

Thus, the HCF of 75 and 100 is 25.

(v) The HCF of 120 and 144

2	120, 144
2	60, 72
2	30, 36
3	15, 18
	5, 6

All common prime factors of 120 and 144 = $2 \times 2 \times 2 \times 3$

$$\text{HCF} = \mathbf{24}$$

Thus, the HCF of 120 and 144 is 24.

(vi) The HCF of 112 and 160

2	112, 160
2	56, 80
2	28, 40
2	14, 20
	7, 10

All common prime factors of 112 and 160 = $2 \times 2 \times 2 \times 2$

$$\text{HCF} = \mathbf{16}$$

Thus, the HCF of 112 and 160 is 16.

(vii) The HCF of 216 and 372

2	216, 372
2	108, 186
3	54, 93
	18, 31

All common prime factors of 216 and 372 = $2 \times 2 \times 3$
HCF = **12**

Thus, the HCF of 216 and 372 is 12.

(viii) The HCF of 384 and 512

2	384, 512
2	192, 256
2	96, 128
2	48, 64
2	24, 32
2	12, 16
2	6, 8
	3, 4

All common prime factors of 384 and 512
= $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$
HCF = **128**

Thus, the HCF of 384 and 512 is 128.

(ix) The HCF of 12, 28 and 44

2	12, 28, 44
2	6, 14, 22
	3, 7, 11

All common prime factors of 12, 28 and 44 = 2×2
HCF = **4**

Thus, the HCF of 12, 28 and 44 is 4.

(x) The HCF of 21, 35 and 77

7	21, 35, 77
	3, 5, 11

The only common prime factors of 21, 35 and 77 = 7
HCF = **7**

Thus, the HCF of 21, 35 and 77 is 7.

(xi) The HCF of 54, 81 and 108

3	54, 81, 108
3	18, 27, 36
3	6, 9, 12
	2, 3, 4

All common prime factors of 54, 81 and 108 = $3 \times 3 \times 3$
HCF = **27**

Thus, the HCF of 54, 81 and 108 is 27.

(xii) The HCF of 68, 76 and 96

2	68, 76, 96
2	34, 38, 48
	17, 19, 24

All common prime factors of 68, 76 and 96 = 2×2
HCF = **4**

Thus, the HCF of 68, 76 and 96 is 4.

2. (i) The HCF of 36 and 45

Factors of 36 = 1, 2, 3, 4, 6, (9), 12, 18, 36

Factors of 45 = 1, 3, 5, (9), 15, 45

The highest common factor among the factors of 36 and 45 = 9

Thus, the HCF of 36 and 45 is **9**.

(ii) & (iii) Do it yourself.

(iv) The HCF of 72 and 90

Factors of 72 = 1, 2, 3, 4, 6, 8, 9, 12, (18), 24, 36, 72

Factors of 90 = 1, 2, 3, 5, 6, 9, 10, 15, (18), 30, 45, 90

The highest common factor among the factors of 72 and 90
= 18

Thus, the HCF of 72 and 90 is 18.

(v) Do it yourself.

(vi) The HCF of 45, 75 and 105

Factors of 45 = 1, 3, 5, 9, (15), 45

Factors of 75 = 1, 3, 5, (15), 25, 75

Factors of 105 = 1, 3, 5, 7, (15), 21, 35, 105

The highest common factor among the factors of 45, 75 and
105 = 15

Thus, the HCF of 45, 75 and 105 is **15**.

(vii) Do it yourself.

(viii) The HCF of 63, 84 and 126

Factors of 63 = 1, 3, 7, 9, (21), 63

Factors of 84 = 1, 2, 3, 4, 6, 7, 12, 14, (21), 28, 42, 84
 Factors of 126 = 1, 2, 3, 6, 7, 9, 14, 18, (21), 42, 63, 126
 The highest common factor among the factors of 63, 84 and
 126 = 21

Thus, the HCF of 63, 84 and 126 is **21**.

(ix-xi) Do it yourself.

(xii) The HCF of 16, 24 and 40

Factors of 16 = 1, 2, 4, (8), 16

Factors of 24 = 1, 2, 3, 4, 6, (8), 12, 24

Factors of 40 = 1, 2, 4, 5, (8), 10, 20, 40

The highest common factor among the factors of 16, 24 and
 40 = 8

Thus, the HCF of 16, 24 and 40 is **8**.

3. (i) For the numbers 40 and 91

Factors of 40 = (1), 2, 4, 5, 8, 10, 20, 40

Factors of 91 = (1), 7, 13, 91

There are only common factor of 40 and 91 = 1

Thus, 40 and 91 are co-prime.

(ii) Do it yourself.

(iii) For the numbers 28 and 42

Factors of 28 = (1), (2), 4, (7), (14), 28

Factors of 42 = (1), (2), 3, 6, (7), (14), 21, 42

There are 4 common factors (more than 1) of 28 and 42 = 1, 2,
 7 and 14

Thus, 28 and 42 are co-divisible.

(iv) & (v) Do it yourself.

(vi) For the numbers 50 and 60

Factors of 50 = (1), (2), (5), (10), 25, 50

Factors of 60 = (1), (2), 3, 4, (5), 6, (10), 12, 15, 20, 30, 60

There are 4 common factors (more than 1) of 50 and 60 = 1,
 2, 5, and 10

Thus, 50 and 60 are co-divisible.

(vii) Do it yourself.

(viii) For the numbers 8 and 15

Factors of 8 = (1), 2, 4, 8

Factors of 15 = (1), 3, 5, 15

There are only common factor of 8 and 15 = 1

Thus, 8 and 15 are co-prime.

4. (i) For the numbers 7 and 49

Since 7 is a factor of 49. Thus, HCF of 7 and 49 is 7.

- (ii) For the numbers 6, 12 and 24
 Since 6 is a factor of 12 and 24. Thus the HCF of 6, 12 and 24 is 6.
- (iii) For the numbers 7 and 10
 Since 7 and 10 are co-prime and we know that the HCF of two co-prime numbers will be always 1.
 Thus, the HCF of 7 and 10 is 1.
- (iv) For the numbers 9 and 16
 Since 9 and 16 are co-prime and we know that the HCF of two co-prime numbers will be always 1.
 Thus, the HCF of 9 and 16 is 1.
- (v) For the numbers 25 and 125
 Since 25 is a factor of 125. Thus, the HCF of 25 and 125 is 25.
- (vi) For the numbers 50 and 77
 Since 50 and 77 are co-prime and we know that the HCF of two co-prime numbers will be always 1.
 Thus, the HCF of 50 and 77 is 1.
- (vii) Do it yourself.
- (viii) For the numbers 128 and 512
 Since 128 is a factor of 512. Thus, the HCF of 128 and 512 is 128.
- (ix) Do it yourself.
5. (i) The HCF of 40 and 60

2	40, 60
2	20, 30
5	10, 15
	2, 3

All common prime factors of 40 and 60 = $2 \times 2 \times 5$
HCF = 20

Thus, HCF of 40 and 60 is 20.

- (ii) Do it yourself.
- (iii) The HCF of 21, 63 and 189

3	21, 63, 189
7	7, 21, 63
	1, 3, 9

All common prime factors of 21, 63 and 189 = 3×7
HCF = 21

Thus, HCF of 21, 63 and 189 is 21.

(iv) & (v) Do it yourself.

(vi) The HCF of 144, 252 and 228

2	144, 252, 228
2	72, 126, 114
3	36, 63, 57
	12, 21, 19

All common prime factors of 144, 252 and 228 = $2 \times 2 \times 3$
HCF = **12**

Thus, HCF of 144, 252 and 228 is 12.

(vii) & (viii) Do it yourself.

(ix) The HCF of 69 and 92

23	69, 92
	3, 4

Only common prime factor of 69 and 92 = **23**

Thus, HCF of 69 and 92 is 23.

Exercise 8C

1. The HCF of 32 and 80

2	32, 80
2	16, 40
2	8, 20
2	4, 10
	2, 5

All common prime factors of 32 and 80 = $2 \times 2 \times 2 \times 2$
HCF = **16**

Thus, the HCF of 32 and 80 is 16. It is a composite number.

2. The HCF of 90 and 108

2	90, 108
3	45, 54
3	15, 18
	5, 6

All common prime factors of 90 and 108 = $2 \times 3 \times 3$

$$\text{HCF} = \mathbf{18}$$

Thus, the HCF of 90 and 108 is 18. It is even.

3. The required number will divide $68 - 4 = 64$ and $116 - 4 = 112$ exactly.

It will be HCF of 64 and 112

2	64, 112
2	32, 56
2	16, 28
2	8, 14
	4, 7

All common prime factors of 64 and 112 = $2 \times 2 \times 2 \times 2$

$$\text{HCF} = \mathbf{16}$$

Hence the required number is 16.

4. We take HCF of 36 and 63

3	36, 63
3	12, 21
	4, 7

All common prime factors of 36 and 63 = 3×3

$$\text{HCF} = 3 \times 3 = \mathbf{9}$$

Thus, the greatest number is 9 which divides both 36 and 63 exactly.

5. We take HCF of 391 and 527

17	391, 527
	23, 31

All common prime factors of 391 and 527 = 17

$$\text{HCF} = \mathbf{17}$$

Thus, the greatest number is 17 which divides both 391 and 527 exactly.

6. Three cans contain 16 litres, 20 litres and 28 litres milk. To find the greatest capacity of jug to be used for measuring milk, we take HCF of 16, 20, 28.

2	16, 20, 28
2	8, 10, 14
	4, 5, 7

All common prime factors of 16, 20, 28 = 2×2

$$\therefore \text{HCF} = 2 \times 2 = 4$$

Thus, greatest capacity of the jug is 4 litres.

7. There are 40, 48 and 64 students in the classes. To find greatest number of students in each row, we take HCF of 40, 48, 64.

$$\begin{array}{r|l} 2 & 40, 48, 64 \\ \hline 2 & 20, 24, 32 \\ \hline 2 & 10, 12, 16 \\ \hline & 5, 6, 8 \end{array}$$

All common prime factors of 40, 48, 64 = $2 \times 2 \times 2$

$$\therefore \text{HCF} = 2 \times 2 \times 2 = 8$$

Thus, the maximum number of students standing in each row is 8.

8. Dimensions of hall are 36 m long and 15 m broad. To calculate length of greatest rod, we find HCF of 36 and 15.

$$\begin{array}{r|l} 3 & 36, 15 \\ \hline & 12, 5 \end{array}$$

Common prime factors of 36, 15 = 3

$$\therefore \text{HCF} = 3$$

Thus, length of greatest rod to measure length and breadth is 3 m.

9. Number of boys and girls are 112 and 96.

To find the greatest number of boys and girls in each team, we take HCF of 112 and 96.

$$\begin{array}{r|l} 2 & 112, 96 \\ \hline 2 & 56, 48 \\ \hline 2 & 28, 24 \\ \hline 2 & 14, 12 \\ \hline & 7, 6 \end{array}$$

All common prime factors of 112 and 96 = $2 \times 2 \times 2 \times 2$

$$\therefore \text{HCF} = 2 \times 2 \times 2 \times 2 = 16$$

Thus, the greatest number of boys and girls in each team is 16.

10. Dimensions of a floor are 28 m and 18 m. To find the greatest square tile, we take HCF of 28 and 18.

$$\begin{array}{r|l} 2 & 28, 18 \\ \hline & 14, 9 \end{array}$$

Common prime factors of 28 and 18 = 2

$$\therefore \text{HCF} = 2$$

Thus, the side of greatest square tile is 2 m which can be used exactly.

11. Three labourers got ₹ 81, ₹ 135, ₹ 162 respectively.

To calculate the maximum daily wages, we take HCF of 81, 135 and 162.

3	81, 135, 162
3	27, 45, 54
3	9, 15, 18
	3, 5, 6

All common prime factors of 81, 135 and 162 = $3 \times 3 \times 3$

∴ HCF = $3 \times 3 \times 3 = 27$

Thus, the maximum daily wages of labourers is ₹ 27.

12. Length of two ropes are 30 m and 45 m. To find maximum length of each piece, we take HCF of 30 and 45.

3	30, 45
5	10, 15
	2, 3

All common prime factors of 30, 45 = 3×5

∴ HCF = $3 \times 5 = 15$

Thus, the maximum length of each piece is 15 m.

Multiple Choice Questions

Do it yourself.

Revision Exercise

1. to 7. Do it yourself.

8. Length of two wires are 12 m and 16 m

To cut equal and maximum length of piece, we take HCF of 12 and 16

	12, 16
2	6, 8
	3, 4

All common prime factors of 12 and 16 = 2×2

HCF = $2 \times 2 = 4$

Thus, the maximum length of each piece is 4 m.

9. Number which divide 15, 18 and 30 exactly, we take HCF of 15, 18, 30

3	15, 18, 30
	5, 6, 10

Only common prime factor of 15, 18 and 30 = 3

According to question greatest number which is less by 1 to divide 15, 18 and 30 exactly = $3 - 1 = 2$

Thus, 2 is the required number.

9. Lowest (Least) Common Multiple (LCM)

Exercise 9A

1. (i) The LCM of 4 and 12

Multiples of 4 = 4, 8, $\textcircled{12}$, 16, 20, 24

Multiples of 12 = 12, 24, 36, 48, 60, 72

Least common multiple among the multiple of 4 and 12 = **12**

Thus, the LCM of 4 and 12 is 12.

- (ii), (iii) & (iv) Do it yourself.

- (v) The LCM of 6 and 4

Multiples of 6 = 6, $\textcircled{12}$, 18, 24, 30

Multiples of 4 = 4, 8, $\textcircled{12}$, 16, 20

Least common multiple among the multiples of 6 and 4 = **12**

Thus, the LCM of 6 and 4 is 12.

- (vi) & (vii) Do it yourself.

- (viii) The LCM of 9 and 12

Multiples of 9 = 9, 18, 27, $\textcircled{36}$, 45, 54

Multiples of 12 = 12, 24, $\textcircled{36}$, 48, 60, 72

Least common multiple among the multiples of 9 and 12 = **36**

Thus, the LCM of 9 and 12 is 36.

2. (i) The LCM of 8, 12 and 16

2	8, 12, 16
2	4, 6, 8
2	2, 3, 4
2	1, 3, 2
3	1, 3, 1
	1, 1, 1

Thus, the LCM of 8, 12 and 16 = $2 \times 2 \times 2 \times 2 \times 3 = 48$

- (ii) Do it yourself.

(iii) The LCM of 40 and 50

2	40, 50
2	20, 25
2	10, 25
5	5, 25
5	1, 5
	1, 1

Thus, the LCM of 40 and 50 = $2 \times 2 \times 2 \times 5 \times 5 = \mathbf{200}$

(iv) Do it yourself.

(v) The LCM of 96 and 144

2	96, 144
2	48, 72
2	24, 36
2	12, 18
2	6, 9
3	3, 9
3	1, 3
	1, 1

Thus, the LCM of 96 and 144 = $2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$
= **288**

(vi) & (vii) Do it yourself.

(viii) The LCM of 10, 20 and 30

2	10, 20, 30
2	5, 10, 15
3	5, 5, 15
5	5, 5, 5
	1, 1, 1

Thus, the LCM of 10, 20 and 30 = $2 \times 2 \times 3 \times 5 = \mathbf{60}$

3. (i) The LCM of 25 and 10

2	25, 10
5	25, 5
5	5, 1
	1, 1

Thus, the LCM of 25 and 10 = $2 \times 5 \times 5 = \mathbf{50}$

- (ii) Do it yourself.
 (iii) The LCM of 42 and 49

2	42, 49
3	21, 49
7	7, 49
7	1, 7
	1, 1

Thus, the LCM of 42 and 49 = $2 \times 3 \times 7 \times 7 = \mathbf{294}$

- (iv) & (v) Do it yourself.
 (vi) The LCM of 72 and 42

2	72, 42
2	36, 21
2	18, 21
3	9, 21
3	3, 7
7	1, 7
	1, 1

Thus, the LCM of 72 and 42 = $2 \times 2 \times 2 \times 3 \times 3 \times 7 = \mathbf{504}$

- (vii) Do it yourself.
 (viii) The LCM of 9 and 81

3	9, 81
3	3, 27
3	1, 9
3	1, 3
	1, 1

Thus, the LCM of 9 and 81 = $3 \times 3 \times 3 \times 3 = \mathbf{81}$

- 4.** (i) For the numbers 9 and 11
 Since 9 and 11 are co-prime and we know that LCM of the two co-prime numbers is their product
 Thus, LCM of 9 and 11 = $9 \times 11 = \mathbf{99}$
- (ii) For the numbers 7 and 35
 Since 35 is the multiple of 7 and we know that if one number is the multiple of the other, the greater number is the LCM of two numbers.

Thus, 35 is the LCM of 7 and 35.

(iii) For the numbers 4 and 25

Since 4 and 25 are co-prime and we know that the LCM of two co-prime numbers is their product.

Thus, the LCM of 4 and 25 = $4 \times 25 = \mathbf{100}$

(iv) Do it yourself.

(v) For the numbers 16 and 80

Since 80 is the multiple of 16 and we know that if one number is the multiple of the other, the greater number is the LCM of two numbers.

Thus, 80 is the LCM of 16 and 80.

(vi) & (vii) Do it yourself.

(viii) For the numbers 6, 7 and 5

Since 6, 7 and 5 are co-primes and we know that the LCM of two or more co-prime numbers is their product.

Thus, the LCM of 6, 7 and 5 = $6 \times 7 \times 5 = \mathbf{210}$

Exercise 9B

1. Least number exactly divisible by 15, 20 and 24 is their LCM.

2	15, 20, 24
2	15, 10, 12
2	15, 5, 6
3	15, 5, 3
5	5, 5, 1
	1, 1, 1

Thus, LCM of 15, 20 and 24 = $2 \times 2 \times 2 \times 3 \times 5 = \mathbf{120}$

2. To calculate smallest number which is exactly divisible by 18, 24 and 40 is their LCM.

2	18, 24, 40
2	9, 12, 20
2	9, 6, 10
3	9, 3, 5
3	3, 1, 5
5	1, 1, 5
	1, 1, 1

\therefore LCM of 18, 24 and 40 = $2 \times 2 \times 2 \times 3 \times 3 \times 5 = \mathbf{360}$

3. First we calculate LCM of 15, 25, 40.

2	15, 25, 40
2	15, 25, 20
2	15, 25, 10
3	15, 25, 5
5	5, 25, 5
5	1, 5, 1
	1, 1, 1

$$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 5 \times 5 = 600$$

Required number which will give 14 as remainder

$$= 600 + 14 = \mathbf{614}$$

4. Least number of toffees is the LCM of 8, 12 and 20.

2	8, 12, 20
2	4, 6, 10
2	2, 3, 5
3	1, 3, 5
5	1, 1, 5
	1, 1, 1

The least number of toffees are = $2 \times 2 \times 2 \times 3 \times 5 = \mathbf{120}$

5. Minimum time after which they will be lighted again is the LCM of 30 and 45.

2	30, 45
3	15, 45
3	5, 15
	5, 5

LCM of 30, 45 = $2 \times 3 \times 3 \times 5 = 90 \text{ sec} = \mathbf{1 \text{ min } 30 \text{ sec}}$

The green light will light again after 1 min 30 sec *i.e.*, at 11 : 30 pm.

6. The time after which they will ring again is the LCM of 8, 10, and 15.

2	8, 10, 15
2	4, 5, 15
2	2, 5, 15
3	1, 5, 15
5	1, 5, 5
	1, 1, 1

LCM of 8, 10, 15 = $2 \times 2 \times 2 \times 3 \times 5 = 120 \text{ min} = \mathbf{2 \text{ hours}}$

They will ring again after 2 hours *i.e.*, at 2 am.

7. To find their next ringing time we take the LCM of 10, 20 and 30.

2	10, 20, 30
2	5, 10, 15
3	5, 5, 15
5	5, 5, 5
	1, 1, 1

LCM of 10, 20, 30 = $2 \times 2 \times 3 \times 5 = 60 \text{ min} = \mathbf{1 \text{ hour}}$

Thus, bells will ring after 1 hour *i.e.*, at 1 pm.

8. To find the least number of mangoes, we take the LCM of 30, 40 and 45.

2	30, 40, 45
2	15, 20, 45
2	15, 10, 45
3	15, 5, 45
3	5, 5, 15
5	5, 5, 5
	1, 1, 1

LCM of 30, 40, 45 = $2 \times 2 \times 2 \times 3 \times 3 \times 5 = \mathbf{360}$

The least number of mangoes he has is 360.

9. First we find LCM of 10, 12 and 15.

2	10, 12, 15
2	5, 6, 15
3	5, 3, 15
5	5, 1, 5
	1, 1, 1

LCM of 10, 12 and 15 = $2 \times 2 \times 3 \times 5 = 60$

Minimum number of toys when 7 toys are left each time

$$60 + 7 = \mathbf{67}$$

Neha has 67 toys.

10. Minimum number of marbles in each case in the LCM of 10, 15 and 25.

2	10, 15, 25
3	5, 15, 25
5	5, 5, 25
5	1, 1, 5
	1, 1, 1

LCM of 10, 15, 25 = $2 \times 3 \times 5 \times 5 = 150$

The minimum number of marbles in each case = 150.

11. Minimum time after which bells ring is the LCM of 30 and 40.

2	30, 40
2	15, 20
2	15, 10
3	15, 5
5	5, 5
	1, 1

$$\begin{aligned}\text{LCM of 30 and 40} &= 2 \times 2 \times 2 \times 3 \times 5 \\ &= 120 \text{ min} \\ &= 2 \text{ hours (1 hour = 60 min)}\end{aligned}$$

Thus, the bells will ring together after 2 hours *i.e.*, at **9 : 30** am.

12. Minimum number of apples Divya had is the LCM of 10, 15 and 18.

2	10, 15, 18
3	5, 15, 9
3	5, 5, 3
5	5, 5, 1
	1, 1, 1

LCM of 10, 15 and 18 = $2 \times 3 \times 3 \times 5 = 90$

Thus, the minimum number of apples is 90.

Multiple Choice Questions

Do it yourself.

Revision Exercise

1. to 4.; Do it yourself.
5. Smallest number of stones to make the heaps of 15, 20 and 30.

2	15, 20, 30
2	15, 10, 15
3	15, 5, 15
5	5, 5, 5
	1, 1, 1

LCM of 15, 20 and 30 = $2 \times 2 \times 3 \times 5 = 60$

Thus, 60 is the smallest number of stones to make heaps.

6. Smallest length of a rope to cut whole number of pieces length, 45 cm, 75 cm and 81 cm

3	45, 75, 81
3	15, 25, 27
3	5, 25, 9
3	5, 25, 3
5	5, 25, 1
5	1, 5, 1
	1, 1, 1

LCM of 45, 75 and 81 = $3 \times 3 \times 3 \times 3 \times 5 \times 5 = \mathbf{2025}$

Thus, smallest length of a rope to cut whole number of pieces is **2025 cm.**

7. Smallest number which is exactly divisible by 21 and 35

3	21, 35
5	7, 35
7	7, 7
	1, 1

LCM of 21 and 35 = $3 \times 5 \times 7 = \mathbf{105}$

Thus, 105 is the smallest number which is exactly divisible by 21 and 35.

Exercise 10

Do it yourself.

11.

Operations in Common Fractions

Exercise 11A

Do it yourself.

Exercise 11B

1. Length of cloth used in *Kurta* = $1 \frac{9}{10} \text{ m} = \frac{19}{10} \text{ m}$

Length of cloth used in *salwar* = $2 \frac{1}{5} \text{ m} = \frac{11}{5} \text{ m}$

Total cloth used in suit = $\frac{19}{10} + \frac{11}{5}$

LCM of 10, 5 = 10

$$= \frac{19 \times 1 + 11 \times 2}{10} = \frac{19 + 22}{10} = \frac{41}{10} \text{ m} = 4 \frac{1}{10} \text{ m}$$

Total length of cloth used in Garima's suit is $4\frac{1}{10}$ m.

2. In first jump frog leaped = $\frac{2}{3}$ m

In second jump = $\frac{3}{4}$ m

In third jump = $\frac{4}{5}$ m

Total distance leaped by frog = $\frac{2}{3} + \frac{3}{4} + \frac{4}{5}$

LCM of 3, 4, 5 = 60

$$= \frac{2 \times 20 + 3 \times 15 + 4 \times 12}{60}$$

$$= \frac{40 + 45 + 48}{60} = \frac{133}{60} \text{ m} = 2\frac{13}{60} \text{ m}$$

Thus, frog leaped total distance of $2\frac{13}{60}$ m.

3. Amount of grapes bought = $1\frac{1}{2}$ kg = $\frac{3}{2}$ kg

Amount of apples bought = $1\frac{1}{8}$ kg = $\frac{9}{8}$ kg

Amount of dates bought = $\frac{3}{4}$ kg

Total amount of fruits bought by Varun = $\frac{3}{2} + \frac{9}{8} + \frac{3}{4}$

$$\text{LCM of 2, 8, 4} = 8 = \frac{3 \times 4 + 9 \times 1 + 3 \times 2}{8}$$

$$= \frac{12 + 9 + 6}{8}$$

$$= \frac{27}{8} \text{ kg} = 3\frac{3}{8} \text{ kg}$$

Varun bought total of $3\frac{3}{8}$ kg of fruits.

4. Mass of canister = $1\frac{1}{8}$ kg = $\frac{9}{8}$ kg

Mass of oil = $14\frac{3}{4}$ kg = $\frac{59}{4}$ kg

Total mass of canister with oil = $\frac{9}{8} + \frac{59}{4}$

LCM of 8 and 4 = 8

$$= \frac{9 \times 1 + 59 \times 2}{8} = \frac{9 + 118}{8}$$

$$= \frac{127}{8} \text{ kg} = \mathbf{15 \frac{7}{8} \text{ kg}}$$

Total mass of the canister with oil is $15 \frac{7}{8}$ kg.

5. Quantity of chocolate eaten by Rajesh on his way to school

$$= 1 \frac{1}{3} \text{ bars} = \frac{4}{3} \text{ bars}$$

$$\text{On his way back Rajesh ate} = 2 \frac{1}{4} \text{ bars} = \frac{9}{4} \text{ bars}$$

$$\text{Total chocolate eaten by him} = \frac{4}{3} + \frac{9}{4}$$

LCM of 3 and 4 = 12

$$= \frac{4 \times 4 + 9 \times 3}{12} = \frac{16 + 27}{12}$$

$$= \frac{43}{12} = \mathbf{3 \frac{7}{12}}$$

Thus, Rajesh ate total of $3 \frac{7}{12}$ bars.

6. Quantity of water in a bucket = $10 \frac{2}{5}$ litre = $\frac{52}{5}$ litre

$$\text{Quantity of water taken by Aman} = 1 \frac{3}{4} \text{ litre} = \frac{7}{4} \text{ litre}$$

$$\text{Quantity of water left in a bucket} = \frac{52}{5} - \frac{7}{4}$$

LCM of 5 and 4 = 20

$$= \frac{52 \times 4 - 7 \times 5}{20} = \frac{208 - 35}{20}$$

$$= \frac{173}{20} = \mathbf{8 \frac{13}{20} \text{ litre}}$$

Thus, $8 \frac{13}{20}$ litre of water is left in the bucket.

7. Time taken on bicycle = $1 \frac{1}{2}$ hr = $\frac{3}{2}$ hr

$$\text{Time taken on scooter} = \frac{2}{3} \text{ hr}$$

To compare both fractions we first have to make same denominator by taking LCM.

$$\frac{3}{2}, \frac{2}{3}$$

$$\text{LCM of 2 and 3} = 6 = \frac{3 \times 3, 2 \times 2}{6} = \frac{9 > 4}{6}$$

Clearly, $\frac{9}{6} > \frac{4}{6}$ or $\frac{3}{2} > \frac{2}{3}$

$$\begin{aligned} \text{More time taken on bicycle than on scooter} &= \frac{3}{2} - \frac{2}{3} \\ &= \frac{9-4}{6} \text{ (Solved above)} = \frac{5}{6} \text{ hr} \end{aligned}$$

It take $\frac{5}{6}$ hr more on bicycle than on scooter.

8. Amount of milk bought by Divya = $2\frac{1}{2}$ litre = $\frac{5}{2}$ litre

Amount of milk used in the morning = $\frac{3}{4}$ litre

Amount of milk used in the evening = $1\frac{1}{5}$ litre = $\frac{6}{5}$ litre

Amount of milk left in the evening = $\frac{5}{2} - \left(\frac{3}{4} + \frac{6}{5}\right)$

LCM of 2, 4 and 5 = 20

$$= \frac{5 \times 10 - (3 \times 5 + 6 \times 4)}{20} = \frac{50 - (15 + 24)}{20} = \frac{11}{20} \text{ L}$$

In the evening $\frac{11}{20}$ L of milk was left.

9. Height of Ekta = $132\frac{3}{5}$ cm = $\frac{663}{5}$ cm

$$\text{Height of Riya} = 136\frac{1}{10} \text{ cm} = \frac{1361}{10} \text{ cm}$$

Compare both fractions by taking LCM of denominators

$$\frac{663}{5}, \frac{1361}{10}$$

LCM of 5 and 10 = 10

$$= \frac{663 \times 2, 1361 \times 1}{10}$$

$$= \frac{1326 < 1361}{10}$$

Clearly, $\frac{663}{5} < \frac{1361}{10}$

$$\begin{aligned} \text{More height which Riya had than Ekta} &= \frac{1361}{10} - \frac{663}{5} \\ &= \frac{1361 - 1326}{10} \text{ (Solved above)} \end{aligned}$$

$$= \frac{35}{10} = \frac{7}{2} = 3 \frac{1}{2} \text{ cm}$$

Riya is $3 \frac{1}{2}$ cm taller than Ekta.

10. Quantity of petrol in Abhinav's motorcycle previously

$$= 1 \frac{7}{10} \text{ L} = \frac{17}{10} \text{ L}$$

$$\text{Quantity of petrol poured in it} = 2 \frac{1}{2} \text{ L} = \frac{5}{2} \text{ L}$$

$$\begin{aligned} \text{Total petrol now in tank} &= \frac{17}{10} + \frac{5}{2} \\ (\text{LCM of 10 and 2} = 10) &= \frac{17 \times 1 + 5 \times 5}{10} \\ &= \frac{17 + 25}{10} = \frac{42}{10} \text{ L} \end{aligned}$$

$$\text{Now, petrol left in the tank in the evening} = 1 \frac{3}{4} \text{ L} = \frac{7}{4} \text{ L}$$

$$\begin{aligned} \text{Amount of petrol used} &= \frac{42}{10} - \frac{7}{4} \\ (\text{LCM of 10 and 4} = 20) &= \frac{42 \times 2 - 7 \times 5}{20} \end{aligned}$$

$$= \frac{84 - 35}{20} = \frac{49}{20} \text{ L} = 2 \frac{9}{20} \text{ L}$$

Petrol was consumed whole day is $2 \frac{9}{20}$ L.

11. Fraction of students having curly hair = $\frac{1}{9}$

Now, complete fraction is always 1.

Thus, fraction of students who do not have curly hair = $1 - \frac{1}{9}$

$$\begin{aligned} \text{LCM} &= 9 \\ &= \frac{1 \times 9 - 1 \times 1}{9} = \frac{9 - 1}{9} = \frac{8}{9} \end{aligned}$$

Thus, $\frac{8}{9}$ of students do not have curly hair.

12. Quantity of milk that Garima buys daily = $2 \frac{4}{5} \text{ L} = \frac{14}{5} \text{ L}$

$$\text{Quantity of milk that Neha buys daily} = 2 \frac{3}{4} \text{ L} = \frac{11}{4} \text{ L}$$

To compare both fractions we first have to make the denominator of these fraction same by taking LCM.

$$\frac{14}{5}, \frac{11}{4}$$

$$\text{LCM of } 5, 4 = 20$$

$$\Rightarrow \frac{14 \times 4, 11 \times 5}{20}$$

$$\Rightarrow \frac{56 > 55}{20}$$

$$\Rightarrow \frac{56}{20} > \frac{55}{20}$$

$$\Rightarrow \frac{14}{5} > \frac{11}{4}$$

Thus, **Garima** buys more milk daily.

13. Length of cloth used in Rohan's shirt = $1\frac{2}{5}$ m = $\frac{7}{5}$ m

Length of cloth used in Rajesh's shirt = $1\frac{3}{7}$ m = $\frac{10}{7}$ m

To compare both fractions we first have to make the denominator of these fraction same by taking LCM.

$$\frac{7}{5}, \frac{10}{7}$$

$$\text{LCM of } 5 \text{ and } 7 = 35$$

$$\Rightarrow \frac{7 \times 7, 10 \times 5}{35}$$

$$\Rightarrow \frac{49 < 50}{35}$$

$$\Rightarrow \frac{49}{35} < \frac{50}{35}$$

or $\frac{7}{5} < \frac{10}{7}$

Thus, more cloth is used in **Rajesh's shirt**.

Multiple Choice Questions

Do it yourself.

Revision Exercise

1. to **6.**; Do it yourself.

7. Time taken to paint the table = $\frac{3}{4}$ hr

Time taken to paint the chair = $\frac{1}{3}$ hr

Total time taken = $\frac{3}{4} + \frac{1}{3}$

$$\begin{aligned}\text{LCM of 4 and 3} &= 12 \\ &= \frac{3 \times 3 + 1 \times 4}{12} \\ &= \frac{9 + 4}{12} = \frac{13}{12} = \mathbf{1 \frac{1}{12}}\end{aligned}$$

Sachin took total of $1 \frac{1}{12}$ hours in all.

8. Length of Rani's jump = $3 \frac{1}{4}$ m = $\frac{13}{4}$ m

Length of Madhuri's jump = $3 \frac{2}{5}$ m = $\frac{17}{5}$ m

To compare both fraction, we first have to make their denominator same by taking their LCM.

$$\frac{13}{4}, \frac{17}{5}$$

$$\begin{aligned}\text{LCM of 4 and 5} &= 20 \\ &= \frac{13 \times 5, 17 \times 4}{20} = \frac{65 < 68}{20}\end{aligned}$$

Clearly, $\frac{65}{20} < \frac{68}{20}$ or $\frac{13}{4}$ m < $\frac{17}{5}$ m

Thus, **Madhuri** jumped longer.

Now, length of jump which Madhuri jumped more than Rani

$$\begin{aligned}&= \frac{17}{5} - \frac{13}{4} \\ &= \frac{68 - 65}{20} \text{ (Solved above)} \\ &= \mathbf{\frac{3}{20} \text{ m}}\end{aligned}$$

Thus, **Madhuri** jumped $\frac{3}{20}$ m more than Rani.

9. Amount of gas in cylinder = 14 kg

Amount of gas used = $9 \frac{3}{5}$ kg = $\frac{48}{5}$ kg

Amount of gas left in cylinder = $\frac{14}{1} - \frac{48}{5}$

$$\begin{aligned}\text{LCM of 1 and 5} &= 5 \\ &= \frac{14 \times 5 - 48 \times 1}{5} = \frac{70 - 48}{5} \\ &= \frac{22}{5} = \mathbf{4 \frac{2}{5} \text{ kg}}\end{aligned}$$

Amount of gas left in cylinder is $4\frac{2}{5}$ kg.

10. Distance that Megha walked = $2\frac{1}{2}$ km = $\frac{5}{2}$ km

Distance that Preeti walked = $1\frac{7}{10}$ km = $\frac{17}{10}$ km

To compare both fraction, we first have to make the denominator same by taking their LCM.

$$\begin{aligned} & \frac{5}{2}, \frac{17}{10} \\ \text{LCM of 2 and 10} &= 10 \\ &= \frac{5 \times 5, 17 \times 1}{10} = \frac{25 > 17}{10} = \frac{5}{2} > \frac{17}{10} \end{aligned}$$

Thus, Megha walked more than Preeti.

$$\begin{aligned} \text{Distance which Megha walked more than Preeti} &= \frac{5}{2} - \frac{17}{10} \\ &= \frac{25 - 17}{10} \text{ (Solved above)} \\ &= \frac{8}{10} \text{ km} = \frac{4}{5} \text{ km} \end{aligned}$$

Thus, Megha walked $\frac{4}{5}$ km more than Preeti.

12.

Money

Exercise 12A-12B

Do it yourself.

Exercise 12C

1. 1 Note of ₹ 10 makes amount = ₹ 10
3 Coins of ₹ 5 makes amount = ₹ 5×3 = ₹ 15
5 Coins of ₹ 1 makes amount = ₹ 1×5 = ₹ 5
Total amount she did carry = ₹ 10 + ₹ 15 + ₹ 5 = ₹ **30**

Thus, Priya carried ₹ 30 to school.

2. Price of tomatoes = ₹ 40.50
Price of onion = ₹ 25
Price of potatoes = ₹ 50.75
Total price of all the vegetables = ₹ $40.50 + ₹ 25 + ₹ 50.75$
= ₹ **116.25**
3. Amount of money Suman had = ₹ 672.25
Amount of money gave to friend = ₹ 350.50

$$\begin{aligned}\text{Remained amount of money} &= ₹ 672.25 - ₹ 350.50 \\ &= ₹ \mathbf{321.75}\end{aligned}$$

Thus, Suman have ₹ 321.75

4. Amount of money Mohit has = $10 \times ₹ 100 = ₹ 1000$

Amount of money Rahul has = $20 \times ₹ 50 = ₹ 1000$

Thus, Mohit and Rahul **have equal amount of money.**

5. Saving amount of Sachin = ₹ 4500

Deposited amount of this month = ₹ 960.25

Total money he have now = ₹ 5460.25

Thus, Sachin have ₹ 5460.25 now.

6. Amount of money Neha had = ₹ 75

Amount of money she take from her mother = ₹ 10

Total money she have now = ₹ 75 + ₹ 10

= ₹ **85**

Thus, Neha have ₹ 85 now.

7. Amount of money Rohit have = ₹ 500

Cost of pastry he bought = ₹ 67.50

Cost of burger he bought = ₹ 110.75

Total money spent by Rohit = ₹ 67.50 + ₹ 110.75

= ₹ 178.25

Amount of money remained = ₹ 500 - ₹ 178.25

= ₹ **321.75**

Thus, ₹ 321.75 has left with Rohit.

8. Price of a pair of shoes bought by Madhuri = ₹ 999

Price of a pair of socks bought by Madhuri = ₹ 125.50

Total money spent by Madhuri = ₹ 999 + ₹ 125.50 = ₹ **1124.50**

Thus, Madhuri spend ₹ 1124.50.

9. Price of ticket for entry in water park = ₹ 450.75

Mohit gave money for ticket = ₹ 2000

Amount of money was returned to Mohit = ₹ 2000 - ₹ 450.75

= ₹ **1549.25**

Thus, ₹ 1549.25 was returned to Mohit along with ticket.

10. Do it yourself. **Ans.** Carry ₹ 90, need ₹ 10

11. Price of a packet of chips bought by Mayank = ₹ 25.50

Price of a coke = ₹ 36.25

Price of a chocolate = ₹ 10

Total money spend by Mayank = ₹ 25.50 + ₹ 36.25 + ₹ 10

= ₹ **71.75**

Thus, Mayank spend ₹ 71.75.

12. Do it yourself. **Ans.** ₹ 400.50

13. Amount of money Ishika had = ₹ 325
 She did shopping for = ₹ 275.50
 Left amount of money with her = ₹ 325 - ₹ 275.50 = ₹ 49.50

Thus, Ishika have ₹ 49.50 left with her.

14. 5 Notes of ₹ 500 makes amount = $5 \times ₹ 500 = ₹ 2500$
 3 Notes of ₹ 100 makes amount = $3 \times ₹ 100 = ₹ 300$
 7 Notes of ₹ 20 makes amount = $7 \times ₹ 20 = ₹ 140$
 Total money Peter have = ₹ 2500 + ₹ 300 + ₹ 140
 = ₹ **2940**

Thus, Peter have ₹ 2940 in all.

Multiple Choice Questions

Do it yourself.

Revision Exercise

1. to 5.; Do it yourself.

6. A chocolate bar costs = ₹ 15.25
 3 chocolate bars cost = ₹ 15.25 × 3 = ₹ 45.75
 Money will be returned = ₹ 100.00 - ₹ 45.75
 = ₹ **54.25**

So, ₹ 54.25 will be returned to Aman.

7. Cost of 5 metres of cloth = ₹ 235.20
 Cost of 1 metre of cloth = ₹ 235.20 ÷ 5 = ₹ 47.04

So, the cost of 1 metre cloth is ₹ **47.04**.

8. Total money spends on newspaper = ₹ 16.80
 Number of days = 7
 Then, cost of 1 newspaper = $\frac{16.80}{7} = ₹ 2.40$

Thus, cost of 1 newspaper is ₹ 2.40.

13. Clock and Calendar

Exercise 13A-13C

Do it yourself.

Exercise 13D

1. Time of starting film show = 3 : 25 pm
 Time for which it ran = 2 hours 40 min = 2 : 40

$$\begin{array}{r} \boxed{1} \\ \text{The time at which it end} = 3 : 25 \\ + 2 : 40 \\ \hline \text{6 : 05} \end{array}$$

(∴ 1 hour = 60 min)

The film will end at 6 : 05 pm.

2. Time of leaving home = 6 : 45 am.

Time taken to reach the school = 40 min
= 0 : 40 min

$\boxed{1}$

Time at which she reaches school = 6 : 45
+ : 40
7 : 25 (\because 1 hour = 60 min)

Thus, Parul will reach school at 7 : 25 am.

3. Time of reaching the school = 7 : 15 am

Time after which Divya returned = 6 hours 30 min

Time of reaching home = 7 : 15

+ 6 : 30

13 : 45

= 13 : 45 – 12 : 00

= **1 : 45 pm**

Divya reached home at 1 : 45 pm.

4. Time of leaving Howrah station = 09 40 hours

Time after which train reached Kanpur = 15 hr 30 min

= 15 : 30

$\boxed{1}$

Time of reaching Kanpur = 09 : 40

+ 15 : 30

25 : 10

(40 min + 30 min = 70 min = 1 hr 10 min)

= 25 : 10 – 24 : 00

= **1 : 10 am** on the next day.

The train will reach Kanpur 0110 hours or 1 : 10 am on the next day.

5. Time of leaving at New Delhi = 1950 hours

Time taken to reach Chennai = $2\frac{1}{2}$ hours

= 2 : 30 min

$\boxed{1}$

Time of reaching Chennai = 19 : 50

+ 2 : 30

22 : 20 (\because 1 hour = 60 min)

The air-bus will reach Chennai at 2220 hours.

Time at which sun rose = 5 : 58 am

6. Time at which sun set = 5 : 57 pm

= 12 : 00 + 5 : 57 = 17 : 57

$$\begin{array}{r} \boxed{6} \quad \boxed{117} \\ \text{Length of the day} = 17 : 57 \\ - 5 : 58 \\ \hline \mathbf{11 : 59} \end{array}$$

Length of the day is 11 hours 59 minutes.

7. Time of leaving Mumbai by the train = 1930 hours
Time taken to reach Surat = 02 : 30 min

$$\begin{array}{r} \boxed{1} \\ \text{Time at which train reaches Surat} = 19 : 30 \\ + 02 : 30 \\ \hline \mathbf{22 : 00} \end{array}$$

The train will reach Surat at 2200 hours.

8. Time of leaving house = 8 : 45 am
= 0845 hours
Time of returning = 6 : 15 pm
= 1815 hours

$$\begin{array}{r} \boxed{7} \quad \boxed{75} \\ \text{Time after which Riya returns} = 18 : 15 \\ - 08 : 45 \\ \hline \mathbf{09 : 30} \end{array}$$

Riya return back home after 9 hours 30 minutes.

9. Time of starting first period = 7 : 45 am
Time of finishing first period = 8 : 25 am

$$\begin{array}{r} \boxed{7} \quad \boxed{85} \\ \text{Time duration of first period} = 8 : 25 \\ - 7 : 45 \\ \hline \mathbf{0 : 40} \end{array}$$

First period lasts for 40 minutes.

10. Time of leave from Bengaluru of an aeroplane = 0625 hours
Time of reaching Mumbai = 0910 hours

$$\begin{array}{r} \boxed{8} \quad \boxed{70} \\ \text{Time taken to reach Mumbai} = 09 : 10 \\ - 06 : 25 \\ \hline \mathbf{2 : 45} \end{array}$$

It takes 02 hours 45 minutes by an aeroplane to reach Mumbai.

11. Time at which Palak wants cake = 1 pm = 1300 hours = 13 : 00
Time required for baking cake = 45 min
= 0 : 45

$$\begin{array}{r}
 \boxed{12} \quad \boxed{60} \\
 \text{Time for which it should be kept in oven} = 13 : 00 \\
 \underline{- 0 : 45} \\
 \underline{\underline{12 : 15}}
 \end{array}$$

Cake should be kept at 12 : 15 pm in the oven.

12. Time at which Ekta reaches school = 7 : 15 am

$$\begin{array}{r}
 \text{Time taken to reach school} = 25 \text{ min} \\
 = 0 : 25
 \end{array}$$

$$\begin{array}{r}
 \boxed{6} \quad \boxed{75} \\
 \text{Time at which she should set out} = 7 : 15 \\
 \underline{- 0 : 25} \\
 \underline{\underline{6 : 50}}
 \end{array}$$

Ekta should set out at 6 : 50 am.

Exercise 13E

Do it yourself.

Exercise 13F

- to 4.; Do it yourself.
- Number of days Rahul remain out in January = $31 - 6 = 25$ days
 Number of days in February = 28 days
 Number of days in March = 31 days
 Number of days in April = 7 days
 Total number of days = $25 + 28 + 31 + 7 = \mathbf{91 \text{ days}}$
 Rahul remain out for 91 days.
- Number of days school closed in May = $31 - 15 = 16$ days
 Number of days school closed in June = 30 days
 Total number of days for which school remained closed
 = $16 + 30 = \mathbf{46 \text{ days}}$
 School was closed for 46 days.
- Joining date in factory = 9 Jan
 Worked for = 25 days
 \therefore Number of days worked in January = $31 - 8 = 23$ days
 Number of days worked in February = $25 - 23 = 2$ days
 Thus, Rohit left factory on **2nd February**
- Number of days in April = $30 - 19 = 11$ days
 Number of days in May = 2 days
 Total number of days = $11 + 2 = \mathbf{13 \text{ days}}$
 Examination continue for 13 days.
- Duration of stay in July = $31 - 9 = 22$ days
 Duration of stay in August = 31 days

Duration of stay in September = 30 days

Duration of stay in October = 31 days

Duration of stay in November = 30 days

Duration of stay in December = 4 days

Total duration of stay at central school

$$= 22 + 31 + 30 + 31 + 30 + 4 = \mathbf{148 \text{ days}}$$

Thus, Naman stay 148 days at central school.

- 10.** Number of days Ekta remain out in 18 December,

$$= 31 - 17 = 14 \text{ days.}$$

Number of days she remain out in January = 3 days

Number of total days she remain out = $14 + 3 = \mathbf{17 \text{ days}}$

Thus, Ekta remain out for 17 days.

- 11.** Joining date of Megha in company = 14th May

Duration of work in May = $31 - 13 = 18$ days

Duration of work in June = 30 days

Duration of work in July = 24 days

$$\text{Total duration of work} = 18 + 30 + 24 = \mathbf{72 \text{ days}}$$

Thus, Megha work for 72 days.

- 12.** Number of days Garima worked in February = $28 - 10 = 18$ days

Total number of days she worked = 48 days

$$\text{Days left} = 48 - 18 = 30 \text{ days}$$

\therefore Number of days she worked in March = 28 days = **30 March**

Thus, she left the factory on 30 March.

- 13.** Number of days Juhi remain sick in 21 February, 2018

$$= 28 - 20 = 8 \text{ days}$$

Number of days in March he remain sick = 2 March

$$= 2 \text{ day}$$

$$\text{Thus, he remain ill for} = 8 + 2 = \mathbf{10 \text{ days}}$$

Juhi remain ill for 10 days.

- 14.** Number of days Annual sports lasted in October = $31 - 26 = 5$ days

Number of days Annual sports lasted in November = 8 days

Number of total days for which Annual sports lasted = $5 + 8$

$$= \mathbf{13 \text{ days}}$$

Annual sports lasted for 13 days.

14. Length, Weight and Capacity

Exercise 14A-14B

Do it yourself.

Exercise 14C

1. Length of one pole = 23 m 12 cm
Length of another pole = 19 m 32 cm
Total length of both poles = 23 m 12 cm + 19 m 32 cm
= **42 m 44 cm**

2. In one hour Ekta cycled = 6 km 500 m
In next hour Ekta cycled = 7 km 750 m
Total distance she cycled = 6 km 500 m + 7 km 750 m
= **14 km 250 m**

3. Length of pencil = 205 mm
Length reduced in few days = 58 mm
Remain Length = 205 – 58 = 147 mm
 \therefore 10 mm = 1 cm
147 mm = $\frac{147}{10}$ = **14 cm 7 mm**

Thus, length of remained pencil is 14 cm 7 mm.

4. Height of Neeraj = 163 cm
Height of Rajesh = 1 m 81 cm
Difference between their heights = 1 m 81 cm – 163 cm
= **18 cm**

Thus, difference of their heights is 18 cm.

5. Distance of Office from Aman's house = 4635 m
We know that 1 km = 1000 m
Then, distance of office in km = $\frac{4635}{1000}$ = **4 km 635 m**

Thus, Aman's office is 4 km 635 m away from his house.

6. Length of pipe = 5 m
After cutting length of one piece = 2 m 65 cm
Then, length of other piece = 5 m – 2 m 65 cm
= **2 m 35 cm**

Thus, length of other piece is 2 m 35 cm.

7. Length of a wire = 2 m 35 cm
Length of another wire = 7 m 95 cm
Total length of wire = 2 m 35 cm + 7 m 95 cm
= **10 m 30 cm**

Thus, length of both the wire is 10 m 30 cm.

8. Distance of Rajesh's house from school = 10 km 250 m
Distance of Naman's house from school = 3 km 875 m
Difference = 10 km 250 m – 3 km 875 m
= **6 km 375 m**

Thus, **Naman's house** is **6 km 375 m** nearer to the school.

9. Height of Virat = 140 cm
 We know that 1 m = 100 cm
 Then, height in metre and centimetre = $\frac{140}{100} = \mathbf{1\ m\ 40\ cm}$
 Thus, height of Virat is 1 m 40 cm.

Exercise 14D-14E

Do it yourself.

Exercise 14F

1. Quantity of rice bought by a shop = 30 kg 500 g
 Quantity of rice bought by another shop = 48 kg 755 g
 Total quantity of rice he buy altogether
 $= 30\text{ kg }500\text{ g} + 48\text{ kg }755\text{ g} = \mathbf{79\ kg\ 255\ g}$
 Thus, he bought 79 kg 255 g rice altogether.
2. Greater quantity = 208 kg 48 g
 Lesser quantity = 123 kg 160 g
 Difference = 208 kg 48 g – 123 kg 160 g
 $= \mathbf{84\ kg\ 888\ g}$
 Thus, lesser quantity is 84 kg 888 g less than greater quantity.
3. Quantity of potatoes = 5 kg 800 g
 Quantity of tomatoes = 3 kg 750 g
 Quantity of onions = 4 kg 500 g
 Weight of vegetables altogether
 $= 5\text{ kg }800\text{ g} + 3\text{ kg }750\text{ g} + 4\text{ kg }500\text{ g}$
 $= \mathbf{14\ kg\ 50\ g}$
 Thus, weight of total vegetables is 14 kg 50 g.
4. Quantity of sugar mixed = 434 g 112 mg
 Quantity of flour = 513 g 505 mg
 Total weight of mixture = 434 g 112 mg + 513 g 505 mg
 $= \mathbf{947\ g\ 617\ mg}$
 Thus, total weight of mixture 947 g 617 mg.
5. Let x be added to 74 kg 245 g to get 86 kg 418 g
 Then, $74\text{ kg }245\text{ g} + x = 86\text{ kg }418\text{ g}$
 $x = 86\text{ kg }418\text{ g} - 74\text{ kg }245\text{ g}$
 $x = \mathbf{12\ kg\ 173\ g}$
 Thus, we add 12 kg 173 g to get the required number.
6. Weight of a pencil box = 34 g 104 mg
 Weight of the empty pencil box = 25 g 50 mg
 Then, total weight of the pencil and eraser
 $= 34\text{ g }104\text{ mg} - 25\text{ g }50\text{ mg} = 9\text{ g }54\text{ mg}$

Thus, weight of pencil and eraser is 9 g 54 mg.

7. Weight of school bag = 1 kg 755 g
Weight of Notebooks = 550 g
Weight of school bag after removed notebooks
= 1 kg 755 g – 550 g = **1 kg 205 g**

Thus, weight of bag is 1 kg 205 g now.

8. Quantity of ordered sweets = 15 kg
Quantity of left sweets = 3 kg 850 g
Consumed quantity of sweets = 15 kg – 3 kg 850 g = **11 kg 150 g**
Thus, consumed quantity of sweets is 11 kg 150 g.

Exercise 14G-14H

Do it yourself.

Exercise 14I

1. Consumption of water by a family in a day = 342 L 645 mL
Consumption of water by another family in a day = 243 L 736 mL
Total amount of water consumed = 342 L 645 mL + 243 L 736 mL
= **586 L 381 mL**

Thus, total amount of water consumed is 586 L 381 mL.

2. Greater capacity = 66 L 30 mL
Lesser capacity = 36 L 575 mL
Difference = 66 L 30 mL – 36 L 575 mL
= **29 L 455 mL**

Thus, greater capacity is 29 L 455 mL greater than lesser capacity.

3. Quantity of milk in one can = 31 L 500 mL
Quantity of milk in other can = 72 L 650 mL
Total quantity of milk = 31 L 500 mL + 72 L 650 mL
= 104 L 150 mL

Thus, total quantity of milk is 104 L 150 mL.

4. Holding capacity of the petrol tank = 35 L
Quantity of used petrol = 21 L 725 mL
Petrol left in the tank = 35 L – 21 L 725 mL
= 13 L 275 mL

Thus, 13 L 275 mL petrol left in the tank of the car.

5. Quantity of added water in the reservoir = 143 L 726 mL
Quantity of water in the reservoir = 625 L 435 mL
Quantity of water in the reservoir before add water
= 625 L 435 mL – 143 L 726 mL
= 481 L 709 mL

Thus, 481 L 709 mL water was in the reservoir before.

6. Greater capacity = 180L 45 mL
 Lesser capacity = 152 L + 60 mL
 Difference = 180L 45 mL – 152 L 460 mL
 = 27 L 585 mL
 Thus, lesser capacity is 27 L 585 mL less than greater capacity.
7. Quantity of oil sold by merchant to one man = 100L 450 mL
 Quantity of oil sold by merchant to another man = 126 L 725 mL
 Total quantity of oil sold by merchant
 = 100 L 450 mL + 126 L 725 mL
 = **227 L 175 mL**
 Thus, merchant sell 227 L 175 mL altogether.
8. Quantity of oil tin contains = 18 L 750 mL
 Waste quantity due to leakage = 7 L 935 mL
 Oil left in the tin = 18 L 750 mL – 7 L 935 mL
 = **10 L 815 mL**
 Thus, 10 L 815 mL oil left in the tin.

15.

Angle

Do it yourself.

16.

Polygon

Do it yourself.

Multiple Choice Questions

Do it yourself.

Revision Exercise

Do it yourself.

17.

Perimeter

Exercise 17A

Do it yourself.

Exercise 17B

1. Length of a floor = 60 m
 Breadth of a floor = 50 m
 Perimeter of a rectangle = $2(l + b)$
 Perimeter of the floor = $2(60 + 50) = 2 \times 110 = 220$ m
 Thus, perimeter of the floor is **220 m**.

2. Length of field = 100 m
 Breadth of field = 50 m
 Perimeter of rectangular field = $2(l + b) = 2(100 + 50)$
 $= 2 \times 150 = 300$ m
 Girl runs around 3 times then she covered distance
 $= 3 \times 300 = 900$ m
 Thus, girl covered **900 m** distance.
3. Length of cloth = 7 m
 Width of cloth = 2 m
 Perimeter of cloth = $2(7 + 2) = 2 \times 9 = 18$ m
 Required lace = Perimeter of cloth = 18 m
 Thus, required lace is **18 m**.
4. Measure of each side = 48 m
 Perimeter of triangular park = $3 \times \text{side} = 3 \times 48 = 144$ m
 Perimeter of triangular park = 144 m = 144×100 m
 $= 14400$ cm ($\because 1 \text{ m} = 100 \text{ cm}$)
 Girl covers 60 cm in one step.
 Then, number of steps she will take to walk around the park
 $= \frac{14400}{60} = 240$ steps
 Thus, the girl will take to around the park in **240 steps**.
5. Length of a garden which is square shaped = 100 m
 Perimeter of square = $4 \times \text{side}$
 Perimeter of garden = $4 \times 100 = 400$ m
 Wire will required for fencing around it thrice
 $= 3 \times \text{Perimeter of Garden}$
 $= 3 \times 400 = 1200$ m
 Thus, required wire for fencing is **1200 m**.
6. Each side of square field = 80 m
 Then, perimeter of square field = $4 \times \text{side} = 4 \times 80 = 320$ m
 Riya runs 320 m in 1 round
 So, Riya runs in 3 round = $3 \times 320 = 960$ m
 Length of rectangular field = 100 m
 Breadth of rectangular field = 50 m
 Perimeter of rectangular field = $2(l + b) = 2(100 + 50)$
 $= 300$ m
 Virat runs 300 m in 1 round
 So, Virat runs in 3 round = $3 \times 300 = 900$ m
 Difference between their running = $960 - 900 = 60$ m
 Thus, Riya will run, **60 m** more than Virat.

7. Length of table = 150 m
Breadth of table = 120 m
Perimeter of rectangular table = $2(l + b) = 2(150 + 120) = 540$ m
Thus, perimeter of table is **540 m**.
8. Side of a square park = 150 m
Perimeter of square park = $4 \times \text{side} = 4 \times 150 = 600$ m
Cost of fencing = ₹ 40 per metre
Total cost of fencing of square park = $600 \times 40 = ₹ 24000$.
9. Sides of a triangular field = 200 m, 250 m, and 300 m
Perimeter of triangular field = Sum of all the sides
 $= 200 + 250 + 300 = 750$ m
Cost of fencing = ₹ 35 per metre
Total cost of fencing = $750 \times 35 = ₹ 26250$
Thus, total cost of fencing around triangular park is ₹ **26250**.
10. Sides of a triangular park = 200 m, 180 m and 120 m
Perimeter of triangular park = Sum of all the sides
 $= 200 + 180 + 120 = 500$ m
Distance travelled by man if he goes around the park twice
 $= 2 \times \text{perimeter of triangular park}$
 $= 2 \times 500 = 1000$ m
Thus, the man travelled **1000 m** distance if he goes around the park twice.
11. Length of rectangular field = 180 m
Breadth of rectangular field = 70 m
Perimeter of the rectangular field = $2(l + b) = 2(180 + 70)$
 $= 500$ m
We know that 2 km = 2000 m
Then, an athlete make for covering a distance of 2 km or 2000 m
 $= \frac{2000 \text{ m}}{500 \text{ m}} = 4$ round
Thus, an athlete will make **4 round** to covering a distance of 2 km.
12. Length of picture = 50 cm
Breadth of picture = 30 cm
Perimeter of picture = $2(l + b) = 2(50 + 30) = 160$ cm
Required length of wooden stick = Perimeter of picture
 $= 160$ cm
Thus, Aman does need **160 cm** of wooden stick.
13. Length of garden = 50.5 m
Width of garden = 31 m
Perimeter of garden = $2(l + b) = 2(50.5 + 31) = 163$ m

Then, length of boundary = Perimeter of garden
Since boundary is constructed all around it leaving 1.5 m each for entry gates on two sides

So, length of boundary decreases = $2 \times 1.5 = 3$ m

So, total length of boundary = $163 - 3 = 160$ m

Thus, total length of boundary is **160 m**.

- 14.** Distance covered by Sanjay going once round a rectangular field
= 28 m

Let width of rectangular field = b m

Then, perimeter of rectangular field = $2(l + b)$

$$100 = 2(28 + b)$$

$$28 + b = \frac{100}{2} = 50$$

$$b = 50 - 28 = 22 \text{ m}$$

Thus, width of boundary is **22 m**.

- 15.** Each side of square field = 250 m

Perimeter of square field = $4 \times \text{side} = 4 \times 250 = 1000$ m

Then, Ekta runs 1000 m in one round

So, Ekta runs 3000 m in three rounds

Length of rectangular field = 350 m

Breadth of rectangular field = 170 m

Perimeter of rectangular field = $2(l + b)$

$$= 2(350 + 170) = 1040 \text{ m}$$

Then, Ayushi runs 1040 m in one round.

So, Ayushi runs 3120 m in three rounds.

Difference of distance run by them = $3120 \text{ m} - 3000 \text{ m} = 120 \text{ m}$

Thus, Ayushi runs **120 m** more than Ekta.

Multiple Choice Questions

Do it yourself.

Revision Exercise

- 1.** Do it yourself.

- 2.** Do it yourself.

- 3.** Sides of triangle = 5.3 cm, 7.9 cm and 4.7 cm

Perimeter of triangle = Sum of all the sides

$$= 5.3 + 7.9 + 4.7 = 17.9 \text{ cm}$$

Thus, perimeter of the triangle is **17.9 cm**.

- 4.** Perimeter of the square = 84.8 cm

We know that perimeter of square = $4 \times \text{side}$

$$4 \times \text{side} = 84.8$$

$$\text{Side} = \frac{84.8}{4} = 21.2 \text{ cm}$$

Thus, length of each side is **21.2 cm**.

5. Side of square = 1.243 km

Perimeter of square = $4 \times \text{side} = 4 \times 1.243 = 4.972 \text{ km}$

Thus, side of square is **4.972 km**.

6. Perimeter of equilateral triangle = 20.4 m

We know that perimeter of equilateral triangle = $3 \times \text{side}$

Then, $3 \times \text{side} = 20.4$

$$\text{Side} = \frac{20.4}{3} = 6.8 \text{ m}$$

Thus, length of equilateral triangle is **6.8 m**.

7. Each side of square park = 125 m

Perimeter of square park = $4 \times \text{side} = 4 \times 125 = 500 \text{ m}$

Cost of wire = ₹ 2.10 per metre

Cost of 5 rounds of fence around it = $5 \times 500 \times 2.10 = \text{₹ } 5250$

8. Do it yourself. **Ans.** (i) 12 cm^2 (ii) 6 cm^2

9. Do it yourself. **Ans.** (i) 16 cm^2 (ii) 6 cm^2

10. Do it yourself. **Ans.** (i) 8 cm^2 (ii) 12 cm^2