15 Time and Time Tables

1. What time ll it be?

a. 3 hours 20 minutes after 3:30 pm, time will be **6:50 pm.**

	hr	min
	3	30
+	3	20
	6	50

b. 2 hours 30 minutes after mid night time will be **2:30 am**

	hr	min
	00	00
+	2	30
	2	30

c. 3 hours 25 minutes before 12:00 hours, time will be **8:35 am**

	hr	min
	12	00
–	3	25
	8	35

d. 5 hours 10 seconds before 19:08 hours, time will be **14:074:35 am**

	hr	min	sec
	9	08	00
–	5	0	10
	14	07	50

2. Add the following :

a. 4 hours 30 minutes 45 seconds 4
2 hours 30 minutes 20 seconds
= **7 hours 1 minute 5 seconds**

	hr	min	sec
	①	①	
	4	30	45
–	2	30	20
	7	01	05

b. 8 years 6 months 25 days
+ 2years 3 months 15 days
+ 3 years
= **13 hours 10 months 10 days**

	years	months	days
	①	①	
	8	6	25
	2	3	15
+	3	0	0
	13	10	10

c. 7 years 4 months 16 days
+ 5 years 9 months 17 days
= 13 years 2 months 3 days

	years	months	days
	①	①	
	7	4	16
+	5	9	17
	13	02	03

d. 2 hours 20 minutes 30 seconds
+ 3 hours 35 minutes 40 seconds
= **5 hours 56 minutes 10 seconds**

	hr	min	sec
	①	①	
	2	20	30
+	3	35	40
	5	56	10

3. **a.** 10 hours 25 seconds
– 3 hours 40 minutes
= **6 hours 20 minutes 25 seconds**

	hr	min	sec
	(9)	(60)	
	0	~~00~~	25
+	3	40	00
	6	20	25

b. 7 years 8 months 25 days
– 5 hours 8 months 16 days
= **2 years 9 days**

	years	months	days
	7	8	25
–	5	8	16
	2	0	09

4. An office starts at 9:30 am
Lunch time of the office is 1:15 pm (1515 hour) to 2 pm
Duration from 9:30 am to 1:15 pm = 3 hours 45 min
Office closes at 6 pm
Duration from 2 pm to 6 pm = 4 hours
∴ Total working time = 3 hours 45 minutes + 4 hours
= 7 hours 45 minutes.
So, working hours of office are **7 hours 4 minutes.**

hr	min
13	15
9	30
3	45

5. A bus started on Monday at 14:30 hours
The bus reached on Wednesday at 20:45 hours
Duration from 14:30 hours to midnight on Monday = 24:00 – 14:30
= 9 hours 30 minutes
Duration from mid-night on Monday to Tuesday = 24 hours.
Duration from midnight on Tuesday to Wednesday at 20:45 hours
= 2045 hours.
Total time = 9 hours 30 minutes + 24 hours
+ 20 hours 45 minutes = 54 hours 15 minutes
So, time wsas taken by bus in reaching
Kanyakumari = **54 hours 15 min.**

hr	min
9	30
24	00
20	45
54	15

Exercise 15.2

1. **Here is a section of a Railway Time Table for a train which leaves Delhi and goes to Amritsar. Study the table and answer the questions which follow :**

a. The total distance travelled from Delhi to Amritsar is **516** km.
b. The distance from Ludhiana to Amristar is **136** km.
c. Stops at each srtation are as follows : Delhi **35** min, Panipat **10** min, Ambala **10** min, Ludhiana **20** min., Jalandhar **5** min.
d. The time between the departure from Delhi and the arrival at Amritsar is **8** hrs. **20** min.
e. The time between the arrival at Ambala and departure from **Jalandhar is 4 hrs 5 min.**
f. The total time taken for stops at all the stations is **1 hr 20 min.**
g. The total travelling time excluding time for stops is **7hrs 35 min.**

2. Rajasthan Roadways

a. 18 b. ₹307.00 c. 389 km d. 8.30 P.m, 3.15
e. 10:30 am f. 3:45 g. Kota

MCQs

Tick (✓) the correct option :

Ans. 1. iv **2.** ii **3.** iii **4.** ii **5.** ii **6.** iii.

16 Speed, Distance and Time

Exercise 16.1

1. Find speed, when :

$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$

a. Distance = 75km, Time = 3 hours

$\therefore$ Speed = $\frac{75}{3}$ = **25 km/hr**

b. Distance = 120 km, Time = 4 hours

Speed = $\frac{120}{40}$ = **30 km/hr**

c. Distance = 300 km, Time = 15 hours

Speed = $\frac{300}{15}$ = **20 km/hr**

d. Distance = 200 km, Time = 5 hours

Speed = $\frac{200}{5}$ = **40 km/hr.**

e. Distance = 225 km, Time = 3 hours

Speed = $\frac{225}{3}$ = **75 km/hr**

f. Distance = 500 m, Time = 25 min

Speed = $\frac{500}{25}$ = **20 metres/minutes.**

2. Average speed = 70km/hour, Distance = 2800 km

$\therefore$ Time = $\frac{\text{Distance}}{\text{Speed}} = \frac{\cancel{2800}^{40}}{\cancel{70}} = 40$ hour

So, train will take 40 hour to travel.

3. Speed = 175 metres / min, Distance = 2km = 2000 km

$\therefore$ Time = $\frac{\text{Distance}}{\text{speed}} = \frac{\cancel{2000}^{80}}{\cancel{175}_{7}} = \frac{80}{7} = 11\frac{3}{7}$ minutes

So, the cyclist will take $11\frac{3}{7}$ minutes.

4. Distance = 62 km, Time = 6 minutes = $\frac{6}{60} = \frac{1}{10}$ hours

$\therefore$ Speed = $\frac{\text{Distance}}{\text{speed}} = \frac{6.2}{1/10} = \frac{6.2 \times 10}{1} = 62$ km/hr

So, speed of Vaibhav's motor cycle is **62km/hr**

5. Speed of the car = 50 km/hour, Time = 3 hours

$\therefore$ Distance = time × speed = 50 × 3 = 150 km

So, suman travels **150 km** by her car.

6. Speed of the train = 90 km/hr, Time = 3

Distance = $\cancel{90}^{45} \times \frac{7}{\cancel{21}} = 315$km

So, the train covered **315 km.**

7. Distance = 1200 km, Time = 2 hours

$\therefore$ Speed = $\frac{\text{Distance}}{\text{speed}} = 600$ km/hr

So, the speed of aeroplane is 600 km/hr.

8. Distance covered = 25 km = 25000 m

Time = 1 hour = 60 minutes

Speed = $\frac{25000\cancel{0}}{60\cancel{0}} = \frac{1250}{3} = 416.66$ metres/minute

9. Speed = 55 km/hr, Distance = 120 km

Time = $\frac{\text{Distance}}{\text{speed}} = \frac{120}{55} = \frac{24}{11} = 2\frac{2}{11}$ hours

So, the car will be $2\frac{2}{11}$ hours.

10. Distance = 25 km, speed = 10km/hr

Time = $\frac{\text{Distance}}{\text{speed}} = \frac{25}{10} = \frac{5}{2} = 2\frac{1}{2}$

So, Nishu will take $2\frac{1}{2}$ hours to reach the station.

11. Total distance = 300 km

First speed= 60 km/hr, Time = 3 hours

First Distance travelled by car = 3 × 60 = 180

Total time = 5 hours

Time was passed = 3 hour

Time was left = 5 – 3 = 2 hours

Distance was covered = 180 km

Distance was uncovered = 300 – 180 = 120 km

$\therefore$ Speed = $\frac{120}{2} = 60$ km/hr

So, speed of car should be **60 km/hr** after 3 hours.

12. Time taken by first car = 4 hours, Distance = 240 km

$\therefore$ Speed of the first car = $\frac{\text{Distance}}{\text{Time}} = \frac{240}{4} = 60$ km/hour

Speed of another car = 10 km/hour less than first car

= 60 – 10 = 50 km/hour.

Distance = 240 km

Time taken by another car = $\frac{\text{Distance}}{\text{Speed}} = \frac{240}{4} = 4\frac{4}{5}$ hours

= 4 hours 48 minutes

So, another car will take **4 hour 48 minutes**.

13. Distance = 20 m = $\frac{20}{1000}$ km, time = 1 second = $\frac{1}{3600}$ hour

$\therefore$ Speed = $\frac{\text{Distance}}{\text{Time}} = \frac{20}{1000} \div \frac{1}{3600} = \frac{\cancel{20}}{\cancel{1000}} \times \frac{\cancel{3600}}{1} = 72$ km/hr

So, speed of the bus is **72km/hr.**

14. Speed = 45 km/hour, Time = 14 hours

$\therefore$ Distance covered by bus = speed × time = 45 × 14 = 630 km

So, Distance covered by bus is **630 km**.

MCQs

Tick (✓) the correct option :

Ans. 1. ii **2.** iii **3.** i **4.** ii **5.** ii.

17 Pictorial Representation of Data

Exercise 17.1

1. The percentage distribution of educated males and feamles in different states :

a. State B has maximum number of educated males.

b. State B has minimum number of educated females.

c. State C has minimum number of educated males.

2. The table given below shows the production of wheat and rice in India in different years. Dread the table carefully and answer the following questions.

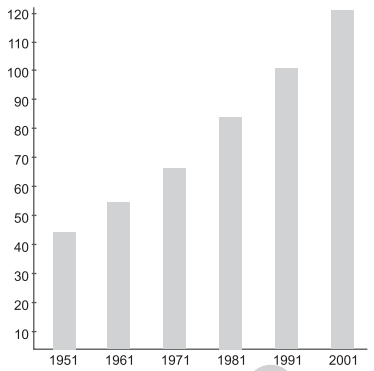
a. Production of Rice was below in 2013, 2015 and 2016.

b. Production of wheat was more than 1000 quintals in 2013, 2014 and 2017.

c. Total production of Wheat and Rice was maximum 2000 quintals in 2017.

d. Production of wheat in 2017 was **1200 quintals** and the production of Rice was **800 quintals**.

3. The population of India in six different censuses is given below in nearest crores :



Exercise 17.2

1. A shopkeeper makes a chart of the cold drinks he sells. Wheever he sells any particular drink he puts a vertical bar by the name of the cold drinks:

Limca	**16**
Coke	**12**
Pepsi	**13**
Mirinda	**22**
Maaza	**20**
Thums up	**11**
7-up	**11**

2. Use the data below to build a table using tally marks to find the number of different shapes.

Figure	Tally	Frequency
	𝍸 | | |	8
	𝍸 𝍸 | | | |	14
	𝍸	5
	𝍸 𝍸	10
	𝍸 𝍸 | |	12
	𝍸 | | | |	9