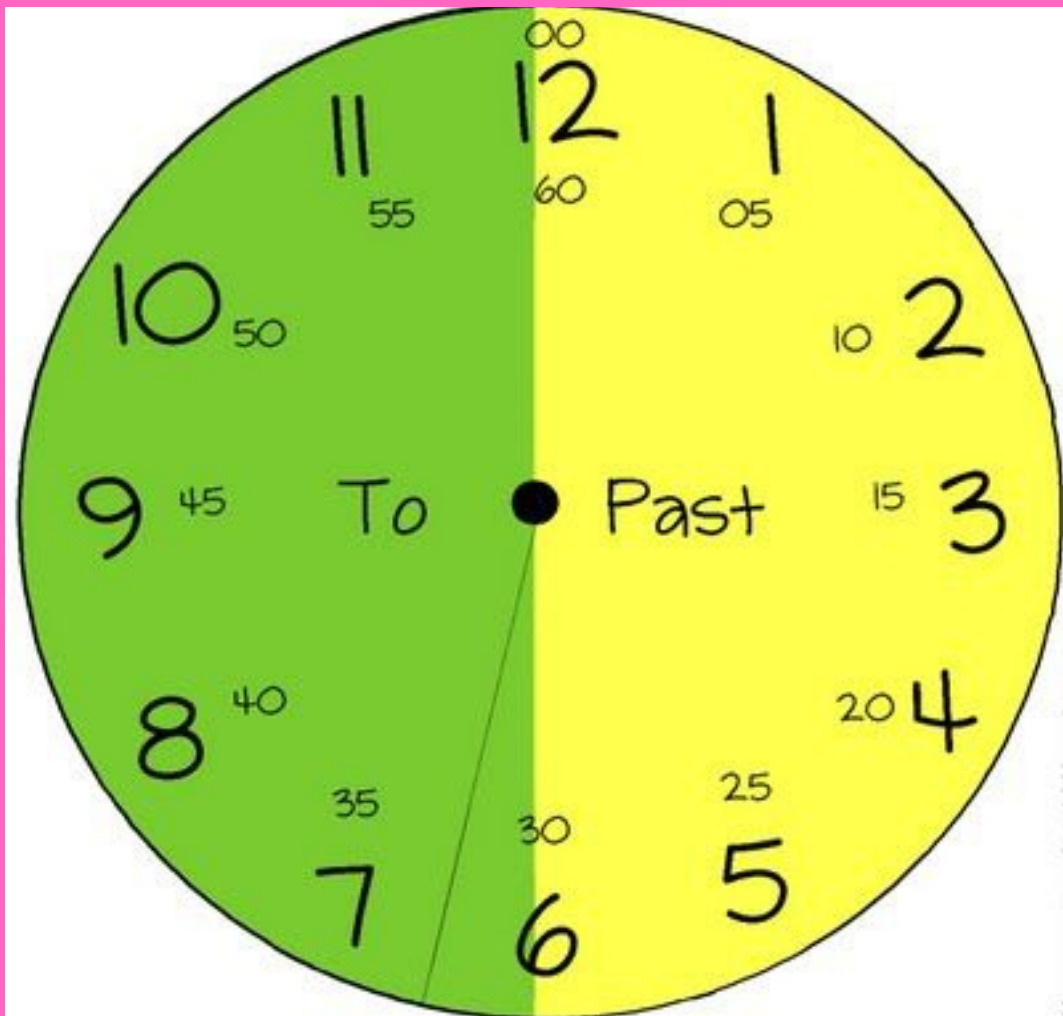


13th class-notes

Std 5(Maths)

Ch.8- TIME



Ch 8. Time

* Points to remember -

1) A clock shows the time in hours, minutes and seconds.

2) A calendar shows the time in days, weeks and months.

3) The relation between the different units of time is as follows -

$$1 \text{ day} = 24 \text{ hours}$$

$$1 \text{ hour} = 60 \text{ minutes}$$

$$1 \text{ minute} = 60 \text{ seconds}$$

$$1 \text{ hour} = 3600 \text{ seconds}$$

$$1 \text{ year} = 12 \text{ months}$$

$$1 \text{ year} = 365 \text{ days}$$

$$1 \text{ leap year} = 366 \text{ days}$$

$$1 \text{ month} = 30 \text{ days}$$

$$1 \text{ month} = 4 \text{ weeks}$$

$$1 \text{ week} = 7 \text{ days}$$

4) Every fourth year is a leap year.

5) February is the shortest month of the year.

Ex 8.1

Q1. The Christmas vacation days.

Solⁿ Christmas vacation starts on = 25th December
Christmas vacation ends on = 9th January

So,

No. of days in December = 7 days
(31-24)

No. of days in January = 9 days
(1st Jan - 9th Jan)

∴ Total no. of vacation days = (7+9) days
= 16 days

Ans. The Christmas vacation was of
16 days.

Q2 Rohan was in Paris?

Solⁿ Rohan was in Paris from 4th Sept. to 15th Dec.

So,

No. of days in September = 27 days
(4th - 30th)

No. of days in October = 31 days

No. of days in November = 30 days

No. of days in December = 15 days 27
(1st to 15th) 31

∴ Total no. of days = (27+31+30+15) days 30
= 103 days + 15
103

Ans. Rohan was in Paris for 103 days.

Q3 a) How many Republic Day?

slⁿ Christmas is celebrated on 25th December
Republic Day is celebrated on 26th January.

So, No. of days in December = 6 days
(31-25)

No. of days in January = 25 days
(1st to 25th)

∴ Total no. of days = (6+25) days
= 31 days

Ans: Republic Day is celebrated after 31 days

b) How many days before Independence

slⁿ Independence Day is celebrated on 15th August
Christmas is celebrated on 25th December

So, No. of days in August = 16 days
(31-15)

No. of days in September = 30 days

No. of days in October = 31 days

No. of days in November = 30 days

No. of days in December = 24 days
(1st to 24th)

∴ Total no. of days = (16+30+31+30+24) days
= 131 days

Ans: Independence Day is celebrated 131 days before Christmas.

Q5. At Priya's school classes be held ?

Solⁿ No. of days in the month of May = 21 days
(31-10)

No. of days in the month of June = 30 days

No. of days in the month of July = 14 days
(1st to 14th)

∴ Total no of days classes will be = (21 + 30 + 14) days
held = 65 days

Ans: The dance classes will be held for 65 days.

Q6. Anuj joined the last class

Solⁿ Anuj joined swimming classes on = 15th May

No. of days in May = 17 days
(31-14)

No of day in June = 28 days
(45-17=28)

∴ The last class for Anuj will be on 28th June.

Ex 8.2

B. Write each time

1) 11:10 am = 11:10 hours

2) 12:00 noon = 12:00 hours

3) 12:00 midnight = 24:00 hours
or 00:00 hours

4) 6:30 pm = 18:30 hours $6:30 + 12:00 = 18:30$

5) 3:45 am = 3:45 hours

6) 11:45 pm = 23:45 hours $11:45 + 12:00 = 23:45$

7) 3:20 am = 3:20 hours

8) 9:15 pm = 21:15 hours $9:15 + 12:00 = 21:15$

9) 4:00 pm = 16:00 hours $4:00 + 12:00 = 16:00$

10) 12:50 pm = 12:50 hours

11) 10:45 pm = 22:45 hours $10:45 + 12:00 = 22:45$

Ex 8.3

A. Find the time intervals.

1) 4:45 am to 6:20 am

Solⁿ 4:45 am = 4 hours 45 minutes
6:20 am = 6 hours 20 minutes

∴ Time interval = 1 hour 35 min

hours	minutes	∵ 1 hr = 60 min ∴ 60 min + 20 min = 80 min
5	30	
6	20	
- 4	45	
1	35	

• Write hours and minutes according to 24-hr clock format.

• Find the difference between the given time

2) 7:45 pm to 11:00 pm

Solⁿ 7:45 pm = 19 hours 45 min
11:00 pm = 23 hours 00 min

∴ Time interval = 3 hours 15 min.

7:45 pm = 19:45 hrs

11:00 pm = 23 hrs

hour	min
22	60
23	00

- 19	45
03	15

∵ 1 hr = 60 min

∴ 60 min + 00 min
= 60 min

3) 9:05 am to 1:10 pm

1:10 pm = 13:10 hrs

Solⁿ 9:05 am = 9 hours 05 minutes

1:10 pm = 13 hours 10 minutes

∴ Time interval = 4 hrs 05 min

hour	min
13	10
-09	05
04	05

4) 3:40 pm to 12:00 midnight

3:40 pm = 15:40 hrs

12:00 midnight = 24:00 hrs

Solⁿ 3:40 pm = 15 hours 40 minutes

12:00 midnight = 24 hrs 00 min.

∴ Time interval = 8 hrs 20 min.

∴ 1 hr = 60 min^{hr}
∴ 60 min + 00 min
= 60 min

hr	min
24	00
-15	40
08	20

B. Find the time.

1) 3 hours 30 minutes after 5:30 am

Solⁿ 5:30 am $\xrightarrow{+3 \text{ hrs}}$ 8:30 am $\xrightarrow{+30 \text{ min}}$ 8:60 am
= 9:00 am

Ans: The time will be 9:00 am

2) 4 hours 15 minutes after 9:30 am

Solⁿ 9:30 am $\xrightarrow{+4 \text{ hrs}}$ 1:30 pm $\xrightarrow{+15 \text{ min}}$ 1:45 pm

Ans: The time will be 1:45 pm

3) 5 hours before 7:15 am

Solⁿ $7:15 \text{ am} - 5 \text{ hrs} \rightarrow 2:15 \text{ am}$

Ans: The time was 2:15 am

4) 12 hours before 6:30 pm

Solⁿ $6:30 \text{ pm} - 6 \text{ hrs} \rightarrow 12:30 \text{ pm} - 6 \text{ hrs} \rightarrow 6:30 \text{ am}$

Ans: The time was 6:30 am

5) 2 hours 40 minutes after 10:30 pm

Solⁿ $10:30 \text{ pm} + 2 \text{ hrs} \rightarrow 12:30 \text{ am} + 40 \text{ min} \rightarrow 12:70 = 01:10 \text{ am}$

Ans: The time will be 01:10 am

6) 3 hours 50 minutes ^{before} 1:45 am

Solⁿ $1:45 \text{ am} - 3 \text{ hrs} \rightarrow 10:45 \text{ pm} - 45 \text{ min} \rightarrow 10:00 \text{ pm} - 5 \text{ min} \rightarrow 9:55 \text{ pm}$

Ans: The time was 9:55 pm

Ex 8.4

Q1. A train leaves _____ train journey?

Solⁿ Train leaves Agra = 6:10 pm = 18:10 hours
Train reaches Delhi = 10:35 pm = 22:35 hours
∴ Time interval = 4 hr 25 min

Ans - The duration of the train journey is 4 hrs 25 min

	hrs	min
	22	35
	<u>-18</u>	<u>10</u>
	04	25

Q4. A tourist bus _____ reach Jaipur?

Solⁿ Journey starts at = 7:00 pm
Duration of the journey = 5 hr 45 min
∴ The time after 5 hr 45 min =

7:00 pm $\xrightarrow{+5 \text{ hr}}$ 12 midnight $\xrightarrow{+45 \text{ min}}$ 12:45 am

Ans: The tourist bus reaches Jaipur at 12:45 am

Q6. The Independence Day _____ it begin?

Solⁿ Independence Day programme got over at = 10:15 am
Duration of the programme = 1 hr 30 min
∴ The time before 1 hr 30 min =

10:15 am $\xrightarrow{-1 \text{ hr}}$ 9:15 am $\xrightarrow{-15 \text{ min}}$ 9:00 am $\xrightarrow{-15 \text{ min}}$ 8:45 am

Ans: The Independence Day programme began at 8:45 am.

Ex 8.5

A. Find the sum.

1) 3 years 8 months + 2 years 5 months

solⁿ

years	months
3	8
+ 2	5
<hr/>	<hr/>
5	13

$\therefore 12 \text{ months} = 1 \text{ year}$

$\therefore 13 \text{ months} = 1 \text{ year } 1 \text{ month}$

So, 5 years + 13 months

= 5 years + 1 year + 1 month

Ans: 6 years 1 month

2)

weeks	days	hours
2	7	23
5	8	14
1	6	12
+ 0	3	16
<hr/>	<hr/>	<hr/>
8	24	65

$\therefore 24 \text{ hrs} = 1 \text{ day}$

7 days = 1 week

$\therefore 65 \text{ hours}$

= 2 days 17 hrs

24 days = 3 weeks

3 days

Now, 8 weeks + 24 days + 65 hours

= 8 weeks + 3 weeks + 3 days + 2 days + 17 hours

= 11 weeks + 5 days + 17 hours

Ans: 11 weeks 5 days 17 hours

3)	hr	min	sec
	5	21	32
	4	19	21
	0	42	39
	+ 0	00	48
	<u>9</u>	<u>82</u>	<u>140</u>

$\therefore 60 \text{ sec} = 1 \text{ min}$
 $60 \text{ min} = 1 \text{ hr}$
 $\therefore 140 \text{ sec} = 2 \text{ min}$
 20 sec
 $82 \text{ min} = 1 \text{ hr}$
 22 min

Now,

$$\begin{aligned}
 & 9 \text{ hr} + 82 \text{ min} + 140 \text{ sec} \\
 &= 9 \text{ hr} + 1 \text{ hr} + 22 \text{ min} + 2 \text{ min} + 20 \text{ sec} \\
 &= 10 \text{ hr} + 24 \text{ min} + 20 \text{ sec}
 \end{aligned}$$

Ans: 10 hours 24 minutes 20 seconds.

4)	years	months	weeks
	11	07	3
	14	05	2
	05	11	1
	+ 01	06	2
	<u>31</u>	<u>29</u>	<u>8</u>

$\therefore 4 \text{ weeks} = 1 \text{ month}$
 $12 \text{ months} = 1 \text{ year}$
 $\therefore 8 \text{ weeks} = 2 \text{ months}$
 $29 \text{ months} = 2 \text{ year}$
 5 months

Now,

$$\begin{aligned}
 & 31 \text{ years} + 29 \text{ months} + 8 \text{ weeks} \\
 &= 31 \text{ years} + 2 \text{ years} + 5 \text{ months} + 2 \text{ months} \\
 &= 33 \text{ years} + 7 \text{ months}
 \end{aligned}$$

Ans: 33 years 7 months.

B. Find the difference.

$$\begin{array}{r}
 \text{1) hr min sec} \\
 \textcircled{49} \textcircled{95} \\
 8 \\
 -6 \\
 \hline
 2
 \end{array}$$

$$\begin{aligned}
 &\because 1 \text{ min} = 60 \text{ sec} \\
 &\Rightarrow 35 + 60 = 95 \text{ sec}
 \end{aligned}$$

\therefore Ans \rightarrow 2 hours 14 minutes 45 seconds.

$$\begin{array}{r}
 \text{2) years months weeks} \\
 \textcircled{5} \textcircled{8} \\
 8 \\
 -2 \\
 \hline
 6
 \end{array}$$

$$\begin{aligned}
 &\because 1 \text{ month} = 4 \text{ weeks} \\
 &\Rightarrow 4 + 4 = 8 \text{ weeks}
 \end{aligned}$$

\therefore Ans \rightarrow 6 years 1 month 3 weeks.

$$\begin{array}{r}
 \text{3) months weeks days} \\
 \textcircled{10} \textcircled{6} \textcircled{22} \\
 11 \\
 -05 \\
 \hline
 05
 \end{array}$$

$$\begin{aligned}
 &\because 1 \text{ week} = 7 \text{ days} \\
 &\Rightarrow 15 + 7 = 22 \text{ day} \\
 &1 \text{ month} = 4 \text{ weeks} \\
 &\Rightarrow 2 + 4 = 6 \text{ week}
 \end{aligned}$$

\therefore Ans \rightarrow 5 months 0 weeks 2 days.

$$\begin{array}{r}
 \text{4) hr min sec} \\
 \textcircled{6} \textcircled{70} \\
 \\
 -5 \\
 \hline
 1
 \end{array}$$

$$\begin{aligned}
 &\because 1 \text{ min} = 60 \text{ sec} \\
 &\Rightarrow 10 + 60 = 70 \text{ sec} \\
 &1 \text{ hr} = 60 \text{ min} \\
 &\Rightarrow 4 + 60 = 64 \text{ min}
 \end{aligned}$$

\therefore Ans \rightarrow 1 hour 19 minutes 50 seconds.

5) weeks days hours
 (2) ~~1~~(8) (39)
 3 2 15
 - 2 6 18
 0 2 28

$\therefore 1 \text{ day} = 24 \text{ hrs}$
 $\Rightarrow 15 + 24 = 39 \text{ hrs}$
 1 week = 7 days
 $\Rightarrow 1 + 7 = 8 \text{ days}$

\therefore Ans \rightarrow 0 weeks 2 days 28 hours
 or, 0 weeks 3 days 4 hours ($\because 24 \text{ hrs} = 1 \text{ day}$)

Ex 8.6

Q1 Ritesh took By how much?

Solⁿ Time taken by Ritesh = 1 hr 25 min 30 sec
 Time taken by Manoj = 1 hr 45 min 40 sec
 $\therefore 1 \text{ hr } 25 \text{ min } 30 \text{ sec} < 1 \text{ hr } 45 \text{ min } 40 \text{ sec}$

\therefore Difference = 20 min 10 sec

	hr	min	sec
	1	45	40
-	1	25	30
	0	20	10

Ans: Ritesh ran faster, took 20 minutes 10 seconds less time than Manoj.

Q2 My mother's

father's age

Solⁿ My mother's age = 35 years 7 months

Father is older than mother by
= 3 years 8 months

∴ Father's age = 38 years + 15 months
= 38 years + 1 year + 3 months
= 39 years 3 months

year month
35 7

+ 03 8

38 15

∴ 12 months = 1 yr

Ans: My father's age is 39 years
3 months.

⇒ 15 months = 1 year
3 months

Q3 The Great Indian

the cities?

Solⁿ Circus ran in Kochi = 4 months 3 weeks 4 days

Circus ran in Chennai = 5 months 2 weeks 6 days

∴ Circus ran in both the
cities for = 9 months + 5 week + 10 days
= 9 months + 1 week + 1 month + 1 week
+ 3 days
= 10 months + 2 weeks + 3 days

month week day

4 3 4

+ 5 2 6

9 5 10

∴ 7 days = 1 week

⇒ 10 days = 1 week
3 days

Ans: The Great Indian Circus ran
for 10 months 2 weeks and 3
days in both the cities.

4 weeks = 1 month

⇒ 5 weeks = 1 month
1 week

Ex 8.7

A. Multiply

1) 7 weeks 3 days by 6.

* can apply any 1 method.

Solⁿ

weeks	day
7	3
X	6
42	18

$\therefore 7 \text{ days} = 1 \text{ week}$
So, 18 days = 2 weeks + 4 days

Now, 42 weeks + 18 days
= 42 weeks + 2 weeks + 4 days

Ans: = 44 weeks 4 days

'OR'

$\therefore 1 \text{ week} = 7 \text{ days}$
So, 7 weeks = $7 \times 7 = 49 \text{ days}$

Now,

7 weeks 3 days = 49 days + 3 days = 52 days

$$52 \text{ days} \times 6 = 312 \text{ days}$$

$\therefore 312 \text{ days} = 312 \div 7$
= 44 weeks 4 days

52
X 6
312
44
7) 312
28
32
28
4

2) 5 weeks 2 days 15 hours by 9

Soln \because 1 week = 7 days
1 day = 24 hours

So,

$$\begin{aligned} & 5 \text{ weeks} + 2 \text{ days} + 15 \text{ hours} \\ & = (5 \times 7 \times 24) \text{ hours} + (2 \times 24) \text{ hours} + 15 \text{ hours} \quad \because 24 \text{ hrs} = 1 \text{ day} \\ & = 840 \text{ hrs} + 48 \text{ hrs} + 15 \text{ hrs} \\ & = 903 \text{ hrs} \end{aligned}$$

Now,

$$903 \text{ hrs} \times 9 = 8127 \text{ hrs}$$

$$\begin{aligned} 8127 \text{ hrs} \div 24 &= 338 \text{ days } 15 \text{ hrs} \\ 338 \text{ days} \div 7 &= 48 \text{ week } 2 \text{ days} \end{aligned}$$

$$\begin{aligned} \therefore 5 \text{ weeks } 2 \text{ days } 15 \text{ hrs} \times 9 \\ = 48 \text{ weeks } 2 \text{ days } 15 \text{ hours} \end{aligned}$$

1023

$\times 9$

9207

383

24) 9207

-72

200

-192

0087

-72

$\because 7 \text{ days} = 1 \text{ week}$

7) 383 | 54

-35

033

-28

05

3) 6 hours 9 minutes 25 seconds by 8

Soln \because 1 hr = 60 min

1 min = 60 sec

So,

$$\begin{aligned} & 6 \text{ hours} + 9 \text{ minutes} + 25 \text{ seconds} \\ & = (6 \times 60 \times 60) \text{ sec} + (9 \times 60) \text{ sec} + 25 \text{ sec} \\ & = 21600 \text{ sec} + 540 \text{ sec} + 25 \text{ sec} \\ & = 22165 \text{ sec} \end{aligned}$$

Now,

$$22165 \text{ sec} \times 8 = 177320 \text{ sec}$$

22165

$\times 8$

177320

$$177320 \text{ sec} = 177320 \text{ sec} \div 60$$

$$= 2955 \text{ min } 20 \text{ sec}$$

$$2955 \text{ min} \leftarrow 2955 \div 60$$

$$= 49 \text{ hr } 15 \text{ min}$$

$\therefore 60 \text{ sec} = 1 \text{ min}$

$$60 \overline{) 177320} \quad (2955$$

$$\underline{-120} \downarrow$$

$$573$$

$$\underline{-540} \downarrow$$

$$0332$$

$$\underline{-300} \downarrow$$

$$0320$$

$$\underline{-300}$$

$$20$$

$\therefore 6 \text{ hr } 9 \text{ min } 25 \text{ sec} \times 8$

$$= 49 \text{ hours } 15 \text{ minutes } 20 \text{ seconds}$$

$\therefore 60 \text{ min} = 1 \text{ hr}$

$$60 \overline{) 2955} \quad (49$$

$$\underline{-240} \downarrow$$

$$0555$$

$$\underline{-540}$$

$$015$$

4) 22 hours 44 mins 36 seconds by 3

Soln $\therefore 1 \text{ hr} = 60 \text{ min}$
 $1 \text{ min} = 60 \text{ sec}$

So,

$$22 \text{ hours} + 44 \text{ mins} + 36 \text{ sec}$$

$$= (22 \times 60 \times 60) \text{ sec} + (44 \times 60) \text{ sec} + 36 \text{ sec}$$

$$= 79,200 \text{ sec} + 2640 \text{ sec} + 36 \text{ sec}$$

$$= 81,876 \text{ sec}$$

Now, $81876 \text{ sec} \times 3 = 245628 \text{ sec}$

$$245628 \text{ sec} = 245628 \div 60$$

$$= 4093 \text{ min } 48 \text{ sec}$$

$$4093 \text{ min} \leftarrow 4093 \div 60$$

$$= 68 \text{ hr } 13 \text{ min}$$

$$81876$$

$$\times 3$$

$$\hline 245628$$

$\therefore 60 \text{ sec} = 1 \text{ min}$

$$60 \overline{) 245628} \quad (4093$$

$$\underline{-240} \downarrow$$

$$056$$

$$\underline{-60} \downarrow$$

$$562$$

$$\underline{-540}$$

$$0228$$

$$\underline{-180}$$

$$048$$

$$\therefore 22 \text{ hrs } 44 \text{ min } 36 \text{ sec} \times 3$$

$$= \underline{68 \text{ hrs } 13 \text{ minutes } 48 \text{ seconds}}$$

$$\therefore 60 \text{ min} = 1 \text{ hr}$$

$$60 \overline{) 4093} \begin{array}{r} 68 \\ -360 \\ \hline 0493 \\ -480 \\ \hline 013 \end{array}$$

B. Divide.

1) 10 weeks 5 days by 3

Solⁿ $\therefore 1 \text{ week} = 7 \text{ days}$

$$\text{So, } 10 \text{ weeks } 5 \text{ days} = 10 \text{ weeks} + 5 \text{ days}$$

$$= (10 \times 7) \text{ days} + 5 \text{ days}$$

$$= 70 \text{ days} + 5 \text{ days}$$

$$= 75 \text{ days}$$

Now,

$$75 \text{ days} \div 3 = 25 \text{ days}$$

$$\therefore 10 \text{ weeks } 5 \text{ days} \div 3$$

$$= \underline{3 \text{ weeks } 4 \text{ days}}$$

$$\begin{array}{r} 25 \\ 3 \overline{) 75} \\ -6 \downarrow \\ \hline 15 \\ -15 \\ \hline 00 \end{array}$$

$\therefore 7 \text{ days} = 1 \text{ week}$

$$7 \overline{) 25} \begin{array}{r} 3 \\ -21 \\ \hline 04 \end{array}$$

2) 25 weeks 6 days 6 hours by 6

Solⁿ $\therefore 1 \text{ week} = 7 \text{ days}$

1 week = 24 hours

So,

$$25 \text{ weeks} + 6 \text{ days} + 6 \text{ hours}$$

$$= (25 \times 7 \times 24) \text{ hours} + (6 \times 24) \text{ hours} + 6 \text{ hours}$$

$$= 4200 \text{ hours} + 144 \text{ hours} + 6 \text{ hours}$$

$$= 4350 \text{ hours}$$

Now,

$$4350 \text{ hours} \div 6 = 725 \text{ hours}$$

$$\begin{array}{r} 725 \\ 6 \overline{) 4350} \\ -42 \downarrow \\ \hline 015 \\ -12 \downarrow \\ \hline 030 \\ -30 \\ \hline 00 \end{array}$$

$\therefore 24 \text{ hrs} = 1 \text{ day}$

$$24 \overline{) 725} \begin{array}{r} 30 \\ -72 \downarrow \\ \hline 005 \\ -0 \\ \hline 5 \end{array}$$

$$725 \text{ hours} = 725 \text{ hr} \div 24$$

$$= 30 \text{ days } 5 \text{ hours}$$

$$30 \text{ days} \leftarrow 30 \text{ days} \div 7$$

$$= 4 \text{ weeks } 2 \text{ days}$$

$\therefore 7 \text{ days} = 1 \text{ week}$

$$\begin{array}{r} 7 \overline{)30} \quad | \quad 4 \\ \underline{-28} \\ 02 \end{array}$$

$$\therefore 25 \text{ weeks } 6 \text{ days } 6 \text{ hours} \div 6$$

$$= \underline{4 \text{ weeks } 2 \text{ days } 5 \text{ hours}}$$

3) 90 hours 45 minutes by 15

Solⁿ $\therefore 1 \text{ hour} = 60 \text{ minutes}$

So,

$$90 \text{ hours } 45 \text{ min} = (90 \times 60) \text{ min} + 45 \text{ min}$$

$$= 5400 \text{ min} + 45 \text{ min}$$

$$= 5445 \text{ min}$$

Now,

$$5445 \text{ min} \div 15 = 363 \text{ min}$$

$$363 \text{ min} = 363 \text{ min} \div 60$$

$$= 6 \text{ hrs } 3 \text{ minutes}$$

$$\therefore 90 \text{ hours } 45 \text{ minutes} \div 15$$

$$= 6 \text{ hours } 3 \text{ minutes}$$

$$\begin{array}{r} 363 \\ 15 \overline{)5445} \\ \underline{-45} \downarrow \\ 094 \\ \underline{-90} \downarrow \\ 045 \\ \underline{-45} \\ 00 \end{array}$$

$\therefore 60 \text{ min} = 1 \text{ hr}$

$$\begin{array}{r} 60 \overline{)363} \quad | \quad 6 \\ \underline{-360} \\ 003 \end{array}$$

4) 36 hours 9 minutes 24 seconds by 4

Soln \because 1 hour = 60 min
1 min = 60 sec

So,
36 hrs + 9 min + 24 sec
= $(36 \times 60 \times 60)$ sec + (9×60) sec + 24 sec
= 1,29,600 sec + 540 sec + 24 sec
= 1,30,164 sec

Now,
 $130164 \text{ sec} \div 4 = 32541 \text{ sec}$

$32541 \text{ sec} = 32541 \text{ sec} \div 60$
= 542 min 21 sec

$542 \text{ min} = 542 \text{ min} \div 60$
= 9 hrs 2 min

$\therefore 36 \text{ hrs } 9 \text{ min } 24 \text{ sec} \div 4$
= 9 hours 2 minutes 21 seconds.

$$\begin{array}{r} 32541 \\ 4 \overline{) 130164} \\ \underline{-12} \\ 010 \\ \underline{-8} \\ 21 \\ \underline{-20} \\ 016 \\ \underline{-16} \\ 004 \\ \underline{-4} \\ 0 \end{array}$$

$\because 60 \text{ sec} = 1 \text{ min}$

$$\begin{array}{r} 60 \overline{) 32541} \quad (542) \\ \underline{-300} \\ 0254 \\ \underline{-240} \\ 0141 \\ \underline{-120} \\ 021 \end{array}$$

$\because 60 \text{ min} = 1 \text{ hr}$

$$\begin{array}{r} 60 \overline{) 542} \quad (9) \\ \underline{-540} \\ 002 \end{array}$$

Book work

EXERCISE 8.2

Do it in the book

A. Write each time in 12-hour clock.

1. Train no. 12723 departs from Nagpur at 15:55 hours. It will arrive at Bhopal at 22:00 hours. $10:00 \text{ pm}$ ($22:00 - 12:00 = 10:00$)
2. A flight departs from New Delhi at 13:35 hours. It will arrive at the Chennai Airport at 17:55 hours. $5:55 \text{ pm}$ ($17:55 - 12:00 = 5:55$)
3. The Laughter Show on TV starts at 20:35 hours. $8:35 \text{ pm}$ ($20:35 - 12:00 = 8:35$)
4. The ODI cricket match between India and Australia starts at 10:10 hours. $10:10 \text{ am}$
5. Flight 242 for Bhubaneshwar departs at 13:15 hours. $1:15 \text{ pm}$ ($13:15 - 12:00 = 1:15$)
6. Maria's train to Mumbai leaves at 19:00 hours. $7:00 \text{ pm}$ ($19:00 - 12:00$)

Mental Arithmetic Book

Exercise 95

Solve the following problems.

- a. Take away the sum of 89 and 99 from 1000.

$$\boxed{812} \quad (1000 - 188)$$

- b. $\frac{63}{8} \div 7 = \boxed{\frac{9}{8}}$ ($\frac{63}{8} \times \frac{1}{7}$)

- c. Find the HCF of 34 and 85. $\boxed{17}$

- d. $3\frac{1}{2} + 4\frac{1}{4} + \frac{1}{3} = \boxed{8\frac{1}{12}}$ ($\frac{7}{2} + \frac{17}{4} + \frac{1}{3} = \frac{42 + 51 + 4}{12} = \frac{97}{12}$)

- e. How many scores are there in 15 dozens?

$$\boxed{9} \quad (\because 1 \text{ dozen} = 12 \quad \therefore 1 \text{ score} = 20 \\ 15 \text{ dozens} = 180 \quad \therefore 180 \div 20 = 9)$$

- f. Largest 5-digit numeral ending in 5. $\boxed{9999}5$

- g. $\frac{1}{6} \div 2 = \boxed{\frac{1}{12}}$ ($\frac{1}{6} \times \frac{1}{2}$)

- h. If 1 bag holds $\frac{3}{8}$ kg of sweets, how much will

$$8 \text{ bags hold? } \boxed{3} \text{ kg} \quad (\frac{3}{8} \times 8)$$

- i. Put < or >: 1.08 $\textcircled{<}$ 1.10

- j. Find the product of all the even numbers between 5 and 9. $\boxed{48}$ (even no = 6×8)

For Rough Work

$$\begin{array}{r} 34 \overline{) 85} \quad (2 \\ - 68 \\ \hline 17 \end{array}$$

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Exercise 96

Solve the following problems.

a. $\frac{3}{4}$ metre of cloth costs ₹ 180. Find the cost of 1 metre cloth. ₹

b. 14 lakhs + 9 thousands + 8 =

c. $\frac{10,000}{20 \times 500} = 1000 + \text{$ (10,000 - 1000)

d. $(240 \div 80) \times 16 = \text{$

e. 5 millions + 4 hundreds + 5 =

f. $\frac{1}{3}$ of 63 + $\frac{1}{4}$ of 88 = (21 + 22)

g. Area of a room measuring 19 metres by 12 metres is m². $A = l \times b = (19 \times 12)$

h. Write the prime factors of 512.

i. = $(3 \times 8) + (\frac{2}{3} \text{ of } 18)$ (24 + 12)

j. A train took 8 hours to cover 320 km. How long will it take to cover 120 km? h

• For Rough Work •

2 h = 3 h)
$$\begin{array}{r} 2 \overline{) 512} \\ \underline{2 \quad 256} \\ 2 \quad 128 \\ \underline{2 \quad 64} \\ 2 \quad 32 \end{array}$$

j)
$$\begin{array}{r} 2 \overline{) 320} \\ \underline{2 \quad 160} \\ 2 \quad 80 \\ \underline{2 \quad 40} \\ 2 \quad 20 \\ \underline{2 \quad 10} \\ 2 \quad 5 \end{array}$$

320 km \rightarrow 8
1 km = $\frac{8}{320}$
 $\therefore \frac{8}{120} \times \frac{320}{8}$

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Exercise 100

Fill in the blank boxes.

a. Place value of 5 in 130.05 is $\boxed{0.05}$.

b. Find the length of a rectangle, whose perimeter is 42 cm and the breadth is 8 cm. $\boxed{13 \text{ cm}}$

c. $\frac{11}{133} \leftrightarrow \frac{77}{133}$ $\left[\begin{array}{l} \because 77 \div 11 = 7 \\ \therefore 77 \div 7 = 11 \\ \therefore 133 \div 7 = 19 \end{array} \right]$

d. $3.39 \div 1000 = \boxed{0.00339}$

e. Put < or >: $0.08 < 0.80$

f. $2.05 + 6.92 = \boxed{8.97}$

g. A score of pencils costs ₹ 60. What will 8 pencils cost? ₹ $\boxed{24}$ $\left[\begin{array}{l} \because 1 \text{ score} = 20 \\ \text{₹ } 3 \times 8 = \text{₹ } 24 \end{array} \right]$

h. $5\frac{1}{5} - 2\frac{3}{5} = \boxed{\frac{13}{5}}$ $\left(\frac{26}{5} - \frac{13}{5} = \frac{26-13}{5} = \frac{13}{5} \right)$

i. $\frac{112}{(110 + 18 - 16)} \div 14 = \boxed{8}$ $(112 \div 14)$

j. Put < or >: $4 > 3$

For Rough Work

(b) $P = 2(l+b)$
 $42 = 2(l+8)$
 $\frac{42}{2} = l+8$
 $21 - 8 = l$
 $13 = l$

(g) $20 \text{ pencils} = \text{₹ } 60$
 $1 \text{ pencil} = \text{₹ } \frac{60}{20} = \text{₹ } 3$

Date :

Marks :

Sign :

Worksheet

WORKSHEET 1

TIME

A. Tick (✓) the correct options.

1. What time will be 5 hours 20 min before 1:30 p.m.?

- a. 8:10 p.m. b. 8:10 a.m. c. 8:11 a.m.

$$\begin{array}{r} \text{hr} \quad \text{min} \\ 13 \quad 30 \\ - 05 \quad 20 \\ \hline 8 \quad 10 \end{array}$$

2. The birds began chirping at 3:45 a.m. They chirped for 2 hours. What time did they stop chirping?

- a. 5:45 p.m. b. 5:45 a.m. c. 5:46 a.m.

$$\begin{array}{r} \text{hr} \quad \text{min} \\ 3 \quad 45 \\ + 2 \quad 00 \\ \hline 5 \quad 45 \end{array}$$

3. The school carnival began at 10:00 a.m. and ended at 1:45 p.m. How long was the carnival?

- a. 3 h 45 min b. 2 h 45 min c. 3 h 15 min

$$\begin{array}{r} \text{hr} \quad \text{min} \\ 13 \quad 45 \\ - 10 \quad 00 \\ \hline 03 \quad 45 \end{array}$$

4. The number of days from 5th May to 2nd June is

- a. 28 days b. 29 days c. 30 days

$$31 - 4 = 27 \text{ days} \\ + 2 \\ \hline 29$$

5. The number of days from 10th February to 16th March in a leap year is

- a. 35 days b. 36 days c. 34 days

$$\text{Feb} - (29 - 9) = 20 \\ \text{Mar} - = 16 \\ \hline 36$$

B. Write each time in 24-hour clock.

1. 11:15 a.m. = 11:15 hours 2. 6:45 p.m. = 18:45 hours 3. 9:15 p.m. = 21:15 hours
4. 4:00 p.m. = 16:00 hours 5. 3:15 a.m. = 03:15 hours 6. 12:50 p.m. = 12:50 hours

WORKSHEET 2

TIME

A. Tick (✓) the correct options.

1. A toy shop opens at 10 a.m. and closes at 8:30 p.m. How long the shop does remains open?

- a. 10 h 30 min b. 11 h 30 min c. 10 h 45 min

2. Mona finished her dance classes on 7th July after 39 days. When did she join the class?

- a. 30th May b. 29 May c. 28 May

$$\text{July} - 7 \text{ days} \\ \text{June} - 30 \text{ days} \\ \text{May} - 2 \text{ days}$$

3. 4:25 in the morning is

- a. 4:25 a.m. b. 4:25 p.m. c. 4:25 only

4. The time interval from 5:50 p.m. to 12:00 midnight is

- a. 6 h 10 min b. 6 h 15 min c. 5 h 10 min

5. The time 6 hours 20 minutes after 11:15 a.m. is

- a. 5:35 p.m. b. 5:35 a.m. c. 5:30 p.m.

$$\text{hr} \quad \text{min} \\ 11:15 \\ + 06 \quad 20$$