Paramount concept :-

11. 1;

A	**B**
(7hr. × 6d)	(7hr. × 8 d)
4	3

Total work = 168 units

1 day's (A + B)'s work = (4 + 3) × 8
= 7 × 8 = 56

Time taken by (A + B) = $\frac{168}{56}$ = 3 days

11.1; **Other method :-**

A → 1 work → 7× 6 = 42 hrs.
B→ 1 work → 7 × 8 = 56 hrs.

A +B - 1 hr. work = $\frac{1}{42}+\frac{1}{56}=\frac{4+3}{168}$

$=\frac{7}{168}$ part

1 day of 8 hrs. work = $\frac{7}{168}\times 8=\frac{7}{21}$ part

∴ No. of days = $\frac{21}{7}$ = 3 days

12.3; **Paramount concept :-**

A+B	**B+C**	**C + A**
(8 days)	(6 days)	(10 days)
15	20	12

Total work = 120 units

∴ 1 day work of 2(A + B + C) = (15 + 20 +12) units

⇒ (A + B + C) = $\frac{47}{2}$ units/day

Required time = $\frac{120}{47}\times 2=5\frac{5}{47}$ days

Other method:

2 (A + B + C)→ 1 day's work

$=\frac{1}{8}+\frac{1}{6}+\frac{1}{10}$

$\frac{15+20+12}{120}=\frac{47}{120}$ part

A + B + C → 1 day's work = $\frac{1}{2}\times\frac{47}{120}$ part

No. of days = $\frac{120\times 2}{47}=\frac{240}{47}=5\frac{5}{47}$ days

13. 2; $M_1 \times D_1 = M_2 \times D_2$
$M_1 \times 100 = (M_1 - 10)\times 110$
$\Rightarrow M_1 = 110$

14. 4; **Paramount concept :-**

A + B	**B + C**	**C + A**
(12 days)	(8 days)	(6 days)
2	3	4

Total work = 24 units

Eff. of (A + B + C) = $\frac{4+3+2}{2}=\frac{9}{2}$ units/day

B's eff = (A + B + C)'s eff - (A + C)'s eff
= 4.5 - 4 = 0.5 unit/day

Time taken by B = $\frac{24}{0.5}$ days = 48 days

Other method:

2 (A + B + C) → 1 day's work

$=\frac{1}{12}+\frac{1}{8}+\frac{1}{6}$ part

$=\frac{4+6+8}{48}=\frac{18}{48}$ part

A + B + C → 1 day's work = $\frac{18}{48\times 2}$ part

B's 1 day work = (A + B + C)'s 1 day's work - (A + C)'s 1 day's work

$=\frac{18}{96}-\left(\frac{1}{6}\right)=\frac{18}{96}-\frac{1}{6}=\frac{18-16}{96}=\frac{2}{96}$

$=\frac{1}{48}$ part

∴ B takes 48 days

15.3; **Paramount concept :-**

A 7   **A + B** (10 -7) =3

(as 7 out of 10 parts completed by A)

Total work = 10 units

A.T.Q.

(A+B) → Remaining work = 3units → 4 days

4 days = 3 units

$1 \text{ day} = \frac{3}{4}$ unit

$\therefore$ (A+B)'s effi = $\frac{3}{4}$ unit/day

$\frac{3}{4}$ unit → 1 day

10 units → $\frac{10 \times 1}{\frac{3}{4}}$

$\therefore$ Required no. of days = $\frac{10}{1} \times \frac{4}{3} = 13\frac{1}{3}$ days

Other method

A will do $\frac{7}{10}$ part is 15 days

A's 1 day work = $\frac{7}{10 \times 15}$ part

A +B will do $\frac{3}{10}$ part in 4 days

A +B 1 day work $\frac{3}{10 \times 4}$ part

A + B → $\frac{3}{40}$ part in 1 day

A +B → 1 work = $\frac{40}{3}$ days

$= 13\frac{1}{3}$ days

16.2; $\frac{\text{Remaining food}}{\text{Remaining persons}} = \frac{400 \times (31-28)}{(400-280)}$

$= \frac{400 \times 3}{120} = 10$ days

Another Method :

The rest of the food will last for (31 – 28) = 3 days if nobody leaves the place.

Number of men eating everyday = 400

So, 1200 could finish the remaining food in one day.

but there are 120 men left, so they can finish the remaining food in 10 days.

17. 1; **Paramount concept :-**

A 6 days   **A + B** 4 days

2 units/days   3 units/ day

Total work = 12 units

B's efficiency = efficiency of {A + B}- eff of {A}

= 3 - 2 = 1unit/day

Required time = $\frac{12}{1}$ = 12 days

Another Method :

(A + B)'s 1 day's work = $\frac{1}{4}$

A's day's work = $\frac{1}{6}$

$\therefore$ B's 1 day's work = (A + B)'s 1 day work - A's 1 day work = $\frac{1}{4} - \frac{1}{6} = \frac{3-2}{12} = \frac{1}{12}$

$\therefore$ B alone can complete the work in 12 days.

18.1; **Paramount concept :-**

Raju (6 days)   **Rinku** (12 days)   **Ram** (24 days)

4   2   1

Total work = 24 units

Efficiency of (Raju + Rinku + Ram)

= 4 + 2 +1

= 7 units/day

Required time = $\frac{24}{7} = 3\frac{3}{7}$ days.

Another Method :

$A + B + C = 1 \text{ day work} = \frac{1}{6}+\frac{1}{12}+\frac{1}{24}$ part

A + B + C = 1 work will take

$$\frac{1}{\frac{1}{6}+\frac{1}{12}+\frac{1}{24}} = \frac{6\times12\times24}{6\times12+12\times24+6\times24}$$

$$= \frac{6\times12\times24}{72+288+144} = \frac{6\times12\times24}{504} = 3\frac{3}{7} \text{ days}$$

19.2; **Paramount concept :-**

A + B	B + C	C + A
(30 days)	(40 days)	(60 days)
4	3	2

Total work = 120 units

Efficiency of 2(A + B + C) = 4 + 3 + 2

$$(A + B + C) = \frac{9}{2}$$

$$\text{Required time} = \frac{120}{\frac{9}{2}} = \frac{120}{9}\times 2 = 26\frac{2}{3} \text{ days}$$

Another Method:

2 (A + B + C) will do

$$= \frac{1}{30}+\frac{1}{40}+\frac{1}{60} \text{ part in 1 day}$$

$$\therefore \text{ days needed} = \frac{1}{\frac{1}{30}+\frac{1}{40}+\frac{1}{60}}$$

$$\frac{30\times40\times60}{30\times40+30\times60+40\times60} = \frac{40}{3}$$

$$\therefore A + B + C \text{ will do in } \frac{80}{3} = 26\frac{2}{3} \text{ days.}$$

20.3; A can copy $\frac{75}{25} = 3$ pages in 1 hr.

A + B can copy $\frac{135}{27} = 5$ pages in 1 hr.

$\therefore$ B can copy 5 – 3 = 2 pages in 1 hr.

$\therefore$ B can copy 42 pages in $\frac{42}{2} = 21$ hrs.

21.1; **Paramount concept :-**

A	B	C
(10 days)	(12 days)	(15 days)
6	5	4

Total work = 60 units

(A + B + C)'s 1 day work = (6 + 5 + 4)
= 15 units

$\therefore$ (A + B + C)'s 2 days work = 30 units

Remaining work = 60 - 30
= 30 units

Efficiency of (A + C) = 10 units/day
(Since B left the job after 2 days)

$$\text{Required time} = \frac{30}{10} \text{ days} = 3 \text{ days.}$$

Another Method :

$$A + B + C \text{ in 2 days, do } 2\left(\frac{1}{10}+\frac{1}{12}+\frac{1}{15}\right) \text{ work}$$

$$= 2\left(\frac{1}{4}\right) = \frac{1}{2} \text{ work}$$

Now, B withdraws, A + C will do the whole work in $\frac{10\times15}{15+10} = 6$ days but they have to do half of it as half of it has already been done. So it will take 6/2 i.e. 3 more days.

22. 3; **Paramount concept :-**

I	You
(15d × 8h) = 120 hrs.	(20/3d ×9h) = 60 hrs.
1 units/days	2 units/ day

Total work = 120 units

Efficiency(I + You) = (1 + 2) = 3 units/hours

1 day's work = 3 × 10h = 30 units
(as 10 hrs. work is done every day)

$$\therefore \text{ Required time} = \frac{120}{30} = 4 \text{ days}$$

Another Method :

Change the time into hours.

I finish in $15 \times 8 = 120$ hrs

You finish in $\frac{20}{3} \times 9 = 60$ hrs

$\therefore$ both of us while working together finish the work in $\frac{120 \times 60}{120+60} = 40$ hrs

$\therefore$ number of days $= \frac{40}{10} = 4$ days.

23.1; A is twice as good as B

Let, A's eff = 2

B's eff = 1

(A + B)'s 1 day work = 2 + 1 = 3 units

$\therefore$ Total work = 16d × 3 = 48 units

Time taken by A $= \frac{48}{2} = 24$ days

Time taken by B $= \frac{48}{1} = 48$ days

Another Method :

Suppose B does in $2x$ days

$\therefore$ A does in x days.

1 day work $= \frac{1}{x} + \frac{1}{2x} = 16$ days work

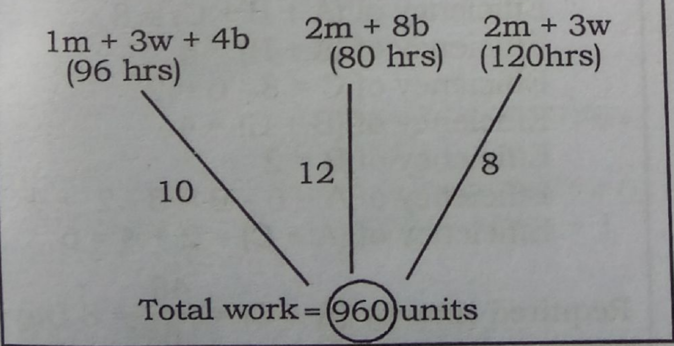
$= 16\left(\frac{1}{x} + \frac{1}{2x}\right) = 16\left(\frac{3}{2x}\right)$

$= \frac{24}{x} = 1$ (as in 16 days 1 work is done)

or, $x = 24$ days

$\therefore$ A does in 24 days and B does in 48 days

24.2; **Paramount concept :-**



Another Method :

$$\begin{array}{rl} 2\,(1m + 3w + 4b &= 10 \text{ units}) \\ \underline{2m + 8b} &\underline{= 12 \text{ units}} \\ 2m + 6w + 8b &= 20 \text{ units} \\ \underline{-\ 2m \quad + 8b} &\underline{= 12 \text{ units}} \\ 6w &= 8 \text{ units} \\ 3w &= 4 \text{ units} \end{array}$$

Given $2m + 3w = 8$ units

$2m = 8 -$ (units by 3w)

$2m = 8 - 4 = 4$ units

i.e. $2m = 3w$ ______(i)

$2m + 8b = 12$ units

4 units + 8b = 12 units

8b = 8 units

4b = 4 units

Now 3w = 4 units

2m = 4 units

4b = 4 units

2m = 4 units

$5m = \frac{5 \times 4}{2} = 10$ units

4b = 4 units

12 boys = 12 units

5m + 12 boys = 10 + 12

= 22

Required time $= \frac{960}{(5M + 12B)}$

$= \frac{960}{22} = 43\frac{7}{11}$ hrs

Another Method :

1 m + 3 w + 4b in 96 hrs .... (1)

2 m + 8 b in 80 hrs ... (2)

or, 1 m + 4b in 160 hrs ... (3)

2 m + 3 w in 120 hrs ... (4)

From (1) and (3), we have,

3 w do the work in $\frac{160 \times 96}{160 - 96} = 240$ hrs ... (5)

From (4) and (5), we have

2 m do the work in $\frac{240 \times 120}{240 - 120} = 240$ hrs ... (6)

$\therefore$ 5 m do the work in $240 \times \frac{2}{5} = 96$ hrs ... (7)

From (2) and (6) we have,

8 b do the work in $\frac{80 \times 240}{240 - 80} = 120$ hrs

$\therefore$ 12b do the work in $\frac{120 \times 8}{12} = 80$ hrs ...(8)

Now, from (7) and (8) we have,

5 m + 12 b do the work in $\frac{96 \times 80}{96 + 80} = \frac{480}{11}$

$= 43\frac{7}{11}$ hrs

25.1; **Paramount concept :-**

A (9 days) **B** (12 days)

4 3

Total work = 36 units

(1 + 1) day $\rightarrow$ (4 + 3)units

$\Rightarrow$ 2days $\rightarrow$ 7 units

×5 $\rightarrow$ ×5

10days $\rightarrow$ 35 units

+1/4 $\rightarrow$ +1 units (A did the job)

$10\frac{1}{4}$days $\rightarrow$ 36 units (Completed)

Another Method:

(A + B)'s work in 2 days

$= \frac{1}{9} + \frac{1}{12} = \frac{4+3}{36} = \frac{7}{36}$

In 5 pairs of days they will complete

$\frac{7 \times 5}{36} = \frac{35}{36}$

That is, after 5 × 2 = 10 days,

$1 - \frac{35}{36} = \frac{1}{36}$ work is left which will be done by A alone.

A does 1 work in 9 days

$\therefore$ A does $\frac{1}{36}$ work in $9 \times \frac{1}{36} = \frac{1}{4}$ days

$\therefore$ Total number of days $= 10 + \frac{1}{4} = 10\frac{1}{4}$ days.

26. 2; Let there be x men originally, then 1 man will do the work in $60x$ days. In the second case, 1 man does the work in $(x + 8)$ 50 days.

Now, $60x = 50(x + 8)$

$\therefore\ x = \frac{400}{10} = 40$ men

Short Tricks:

$M_1 D_1 = M_2 D_2$

$M_1 \times 60 = (M_1 + 8) \times 50$

$M = 40$

27.4; Total Work = 9(8C + 12M)..........(i)

Given 2C = 1 M

$\Rightarrow$ 8 C = 4 M.. ....(ii)

Substituting (ii) in (i)

Total work = 9(4 M + 12 M) = 9 × 16 M

This work has to be done by 12 M

So, Required No. of days $= \frac{9 \times 16M}{12M} = 12$ Days

Another Method:

If each child takes twice the time taken by a man, 8 children = 4 men.

$\therefore$ 8 children + 12 men = 16 men do the work in 9 days

$\therefore$ 12 men finish the work in $= \frac{9 \times 16}{12}$

= 12 days

28. 1; **Paramount concept :-**

A + B (8 days) **B + C** (12 days) **A + B +C** (6 days)

6 4 8

Total work = 48 units

Efficiency of (A + B + C) = 8

Efficiency of (A + B) = 6

Efficiency of C = 8 - 6 = 2

Efficiency of (B + C) = 4

Efficiency of B = 2

Efficiency of A = 6 - B = 6 - 2 = 4

Efficiency of (A + C) = 2 + 4 = 6

Required time by (A + C) $= \frac{48}{6} = 8$ Days

Another Method :

The time taken by (A + B), (B + C) and (C + A) together to finish a work will be half the time taken by (A + B + C) to finish the same work.

Let (C + A) together can finish that work in x days, then

$$\frac{8\times12\times x}{(8\times12)+(12\times x)+(x\times8)}=\frac{1}{2}\times6$$

$$\Rightarrow \frac{8\times12\times x}{96+12x+8x}=3$$

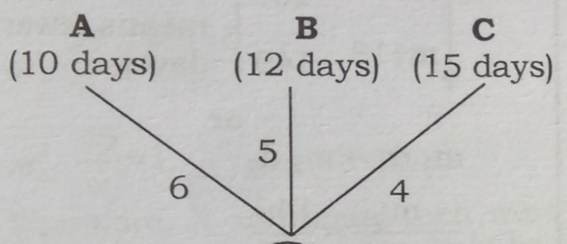
$\Rightarrow\ 32x = 96 + 20x$

i.e. $12x = 96$

$\therefore\ x = 8$

i.e. A and C together will finish the work in 8 days.

29.1; **Paramount concept :-**



Total work = 60 units

First 2 day's work = 2(6 + 4 + 5) = 30 units...(i)

Last 3 day's work done by C only = 4 × 3 = 12 units......................(ii)

Remaining Work = 60 - (30 + 12) = 18 units

Now, it is done by B and C only

Time taken = $\frac{18}{9}$ = 2 Days..............(iii)

From (i), (ii) & (iii)

= 2 + 3 + 2 = 7 Days

Another Method:

Let the total work be completed in x days.

Then, as per question

$\because$ Work of A for 2 days + work of B for (x – 3) days + work of C for x days = 1

$$\Rightarrow\ 2\times\frac{1}{10}+(x-3)\times\frac{1}{12}+x\times\frac{1}{15}=1$$

$$\Rightarrow\ \frac{5(x-3)+4\times x}{60}=1-\frac{1}{5}$$

$$\therefore\ \frac{5(x-3)+4\times x}{60}=\frac{4}{5}$$

$$\therefore\ x=\frac{(48+15)}{9}=7\text{ days}$$

30.2;

Men	Toys i.e. work	days	hours/ day
5	10	6	6
12	16	x	8

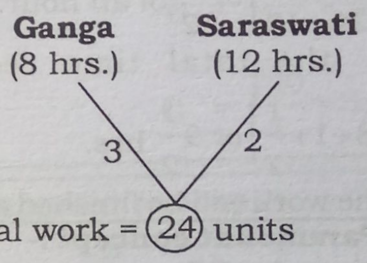
Note:-Except work all others remain together. Work remains on the other side of '=' sign.

$M_1\, d_2\, h_1 \times w_2 = M_2\, d_2\, h_2\, w_1$

$5 \times 6 \times 6 \times 16 = 12 \times x \times 8 \times 10$

$$x=\frac{5\times6\times6\times16}{12\times8\times10}=3\text{ days}$$

31. 1; **Paramount concept :-**



Total work = 24 units

1st hour Ganga = 3 units

2nd hour Saraswati = 2 units

$\Rightarrow$ 2hrs → 5 units

×4 → ×4

8hr → 20 units

+1hr → +3 units (Ganga)

9hr → 23 units

+1/2hr → +1 unit (Saraswati)

+9hr 30 Min → 24 units (Completed)

$\Rightarrow$ 9 A.M. + 9 hr 30 Min.

$\Rightarrow$ 6 : 30 PM

Another Method:

In the first hour Ganga mows $\frac{1}{8}$ of the field.

In the second hour Saraswati mows $\frac{1}{12}$ of the field.

$\therefore$ in the first 2 hrs $\left(\frac{1}{8}+\frac{1}{12}=\frac{5}{24}\right)$ of the field is mowed.

$\therefore$ in 8 hrs $\frac{5}{24}\times 4=\frac{5}{6}$ of the field is mowed

Now, $\left(1-\frac{5}{6}\right)=\frac{1}{6}$ of the field remains to be mowed.

In the 9th hour Ganga mows $\frac{1}{8}$ of the field.

$\therefore$ Saraswati will finish the mowing of $\left(\frac{1}{6}-\frac{1}{8}\right)=\frac{1}{24}$ of the field in $\left(\frac{1}{24}\div\frac{1}{12}\right)$ or $\frac{1}{2}$ of an hour.

$\therefore$ the total time required is $\left(8+1+\frac{1}{2}\right)$ or $9\frac{1}{2}$ hrs.

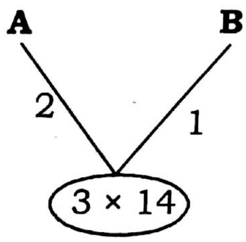
Thus, the work will be finished at 6:30 pm.

32.1; **Paramount concept :-**

Given A = 2B

$$\Rightarrow \frac{A}{B}=\frac{2}{1}\begin{matrix}\longrightarrow \text{Efficiency}\\ \longrightarrow \text{Efficiency}\end{matrix}$$

it can be written as



One day work (A+B) = 2 + 1 = 3 [if B does 1 unit then A does 2 units because A is twice as efficient as B]

Total work = 3 × 14

$$\text{Work done by A} = \frac{3\times 14}{2} = 21 \text{ days}$$

$$\text{Work done by B} = \frac{3\times 14}{1} = 42 \text{ days}$$

Another Method:

Let B finish the work in $2x$ days. Since A is twice as active as B therefore, A finished the work in x days.

$$(A + B) \text{ finish the work in } = \frac{A\times B}{A+B}$$

$$=\frac{2x^2}{3x}=14 \text{ days} \quad \text{or} \quad x=21$$

$\therefore$ A finished the work in 21 days and B finished the work in 21 × 2= 42 days.

33.4; $M_1\times D_1 = M_2\times D_2$

$=M \times 160 = (M + 18) \times 140$

$\Rightarrow M = 126$

Short-Cut Method:

Men	days	
m ↓	160 ↑	(More men means fewer days)
m+18	140	

or

$m_1\, d_1 = m_2\, d_2$

$$\frac{m}{m+18}=\frac{140}{160}$$

160 = 140m + 2520

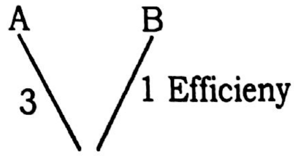
20m = 2520

m = 126

34.3; **Paramount concept :-**

A = 3 B (Given)

This can be re-written as



One day work = (3 + 1) = 4 units/day

Total work = 4 units/day × 15 days
= 60 units

Work done by B in $\left(\frac{60}{1}\right)$ days = 60 days

Another Method:

Thrice + One time = 4 times efficient person does in 15 days

∴ One-time efficient (B) will do in = 15 × 4 = 60 days.

35.2; **Short Tricks:**

$M_1 \times D_1 = M_2 \times D_2$

$M_1 \times 10 = (M - 5) \times 12$

$\Rightarrow M_1 = 30$ Men .

36.1; For the last 5 days 200 men worked in place of 100 men.

$200 \times 5 = 100 \times x$

$x = 10$ days (This means 100 men would have taken 10 days)

⇒ 10 - 5 = 5 days behind scheduled time.

Another Method:

Let 100 men only complete the work in x days

Work done by 100 men in 35 days + Work done by 200 men in (40 – 35) = 5 days =1

$$\text{or, } \frac{35}{x} + \frac{200 \times 5}{100x} = 1$$

$$\text{or, } \frac{45}{x} = 1 \quad \therefore \quad x = 45 \text{ days}$$

Therefore, if additional men were not employed, the work would have lasted 45 – 35 = 5 days behind schedule time.

37.2; $M_1 D_1 W_2 = M_2 D_2 W_1$

$$M_2 = \frac{M_1 D_1 W_2}{D_2 W_1} = \frac{45 \times 200 \times 7.5}{150 \times 4.5}$$

=100 men

$\Rightarrow M_2 = 100$

Extra Men = 100 - 45 = 55 Men

Another Method:

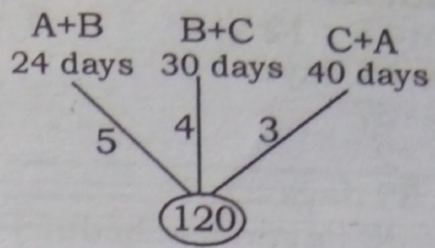
Men	days	length of canal
45 ↓	200 ↑	4.5 ↓
x	150	7.5

$$\frac{45}{x} = \frac{150}{200} \times \frac{4.5}{7.5}$$

$x = 100$

More men employed = 100 - 45 = 55 men

38.1; **Paramount concept :-**



Efficiency (A + B + C)

$$= \frac{A + B + B + C + C + A}{2}$$

$$= \frac{5 + 4 + 3}{2} = \frac{12}{2} = 6 \text{ units}$$

Efficiency A = 6 - (B + C) = 6 - 4 =

Efficiency B = 3

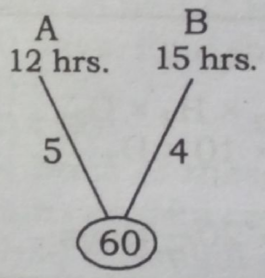
Efficiency C = 1

$$\text{Required time A} = \frac{120}{2} = 60 \text{ day}$$

$$B = \frac{120}{3} = 40 \text{ days}$$

$$C = \frac{120}{1} = 120 \text{ day}$$

39.5; **Paramount concept :-**



1st hour A = 5 units

2nd hour B = 4 units

2 hrs.		9 units
×6	→	×6
12 hrs.		54 units
+1	→	+5
13 hrs.		59 units
1/4hr.		1
13hrs.15min		60 units

5 am. + 13 hrs 15 min = 6 : 15 pm

Another Method:

$30 \times x = 5 \times 12$

$x = 2$ days

Time :- 37
+2
39 days
- 38 (original schedule)
1 day (delay)

40.2;

$\because$ 10 women can complete the work in 7 days.

$\therefore$ 70 women can complete the work in 1 day.

Again,

$\because$ 10 children can complete the work in 14 days.

$\therefore$ 140 children can complete the work in 1 day.

$\therefore$ 70 women = 140 children

$\therefore$ 1 woman = 2 children

$\therefore$ 5 women + 10 children

(10 + 10) children = 20 children

Now, 140 children can complete the work in 1 day

$\therefore$ 20 children can complete in $\frac{140}{20}$

= 7 days.

41.5; **Short Trick :-**

$M_1 \times H_1 \times D_1 = M_2 \times H_2 \times D_2$

$8 \times 9 \times 20 = 7 \times 10 \times D_2$

$\Rightarrow D_2 = \frac{8 \times 9 \times 20}{7 \times 10} = 20\frac{4}{7}$ Days

42.1; 35 men do the rest of the job in 12 days. [12= 38 – 25 – 1]

$\therefore$ 30 men can do the rest of the job in $\frac{12 \times 35}{30} = 14$ days

Thus the work would have been finished in 25 + 14 = 39 days, that is (39 –38) = 1 day after the scheduled time.

Another Method:

$30 \times x = 5 \times 12$

$x = 2$ days

Time :- 37
+ 2
39 days
- 38 (original scheduled time)
1 day (delay)

Note:-

5 extra men did the work in 12 days which was scheduled to be done initially by 30 men in x extra days.

So, the work is delayed by 2 days after 37 days but scheduled time was 38 days thus the work is delayed for only one day.

CHAPTER 2

WORK AND WAGES

1. A can do a work in 6 days and B can do the same work in 5 days. The contract for the work is of ₹ 220. How much shall B get if both of them work together?
(1) ₹ 110 (2) ₹ 120
(3) ₹ 130 (4) ₹ 150
(5) None of these

2. A man can do a work in 10 days. With the help of a boy he can do the same work in 6 days. If they get ₹ 50 for that work, what is the share of that boy?
(1) ₹ 20 (2) ₹ 40
(3) ₹ 50 (4) ₹ 60
(5) None of these

3. A, B and C can do a work in 6, 8 and 12 days respectively. Doing that work together they get an amount of ₹ 1350. What is the share of B in that amount?
(1) ₹ 350 (2) ₹ 400
(3) ₹ 450 (4) ₹ 475
(5) None of these

4. A, B and C contract a work for ₹ 550. Together, A and B are supposed to do $\frac{7}{11}$ of the work. How much does C get?
(1) ₹ 200 (2) ₹ 300
(3) ₹ 150 (4) ₹ 250
(5) None of these

5. Two men undertake to do a piece of work for ₹ 200. One alone could do it in 6 days, the other in 8 days. With the assistance of a boy they finish it in 3 days. How much money should be given to the boy ?
(1) ₹ 20 (2) ₹ 25
(3) ₹ 45 (4) ₹ 65
(5) None of these

6. Wages for 45 women amount to ₹ 15525 in 48 days. How many men must work 16 days to receive ₹ 5750, the daily wages of a man being double of those of a woman?
(1) 25 men (2) 30 men
(3) 35 men (4) 40 men
(5) None of these

7. 3 men and 4 boys can earn Rs. 756 in 7 days. 11 men and 13 boys can earn Rs. 3008 in 8 days. In what time will 7 men with 9 boys earn Rs. 2480?
(1) 8 days (2) 10 days
(3) 15 days (4) 20 days
(5) None of these

8. A, B and C together earn ₹ 1350 in 9 days. A and C together earn ₹ 470 in 5 days. B and C together earn ₹ 760 in 10 days. Find the daily earning of C.
(1) ₹ 20 (2) ₹ 30
(3) ₹ 50 (4) ₹ 100
(5) None of these

9. Ram can do a certain work in 15 days while Chandan can do it in 25 days. Both work together and finish the work. In what ratio should the total earnings be divided between them?
(1) 3 : 5 (2) 2 : 5
(3) 5 : 2 (4) 5 : 3
(5) None of these

10. A, B and C can do a work in 4, 6 and 10 days respectively. They finish the work together and earn ₹ 310. What is the share of each?
(1) ₹ 150, ₹ 100, ₹ 60
(2) ₹ 140, ₹ 110, ₹ 60
(3) ₹ 160, ₹ 90, ₹ 60
(4) ₹ 150, ₹ 110, ₹ 50
(5) None of these

11. A, B and C contract to do a work for ₹ 4200. A can do the work in 6 days, B in 10 days and C in 12 days. If they work together to do the work, what is the share of C?
(1) ₹ 2000 (2) ₹ 1200
(3) ₹ 1000 (4) ₹ 1500
(5) None of these

12. A, B and C contract to do a work for ₹ 6500. A can do the work in 10 days, B in 15 days and C in 20 days. If they work together to do the work, what is the share of B?
(1) ₹ 2000 (2) ₹ 3000
(3) ₹1500 (4) ₹ 2500
(5) None of these

13. Ram can do a work in 20 days. Ram and Shyam together do the same work in 15 days. If they are paid ₹ 400 for that work, what is the share of each.
(1)₹ 300, ₹ 100 (2) ₹ 200, ₹ 200
(3) ₹ 250, ₹ 150 (4) ₹ 350, ₹ 50
(5) None of these

14. Suresh can do a work in 15 days. Suresh and Ramesh together do the same work in 10 days. If they are paid ₹1500 for the work, how should the money be divided between them?
(1) ₹ 1000, ₹ 500 (2) ₹ 700, ₹ 800
(3) ₹ 1200, ₹ 300 (4) ₹ 1300, ₹ 200
(5) None of these

15. A and B contract to do a work together for Rs 300. A alone can do it in 8 days and B alone in 12 days. But with the help of C they finish it in 4 days. Find the share of C.
(1) ₹ 30 (2) ₹ 60
(3) ₹ 100 (4) ₹ 50
(5) None of these

16. A, B and C undertake to do a work for ₹ 660. A and B together do $\frac{8}{11}$ of the work and rest is done by C alone. How much should C get?
(1) ₹ 200 (2) ₹ 160
(3) ₹ 180 (4) ₹ 190
(5) None of these

17. A, B and C undertake to do a work for ₹ 707. A and B together do $\frac{5}{7}$ of the work and rest is done by C alone. How much should C get?
(1) ₹ 202 (2) ₹ 200
(3) ₹ 102 (4) ₹ 150
(5) None of these

18. A, B and C undertake to do a work for ₹ 480. A and B together do $\frac{1}{4}$ of the work and rest is done by C alone. How much should C get?
(1) ₹ 360 (2) ₹ 120
(3) ₹ 240 (4) ₹ 180
(5) None of these

19. If the wages of 45 women amount to ₹ 46575 in 48 days, how many men must work 16 days to receive ₹ 17250, the daily wages of a man being double than those of a woman?
(1) 20 men (2) 25 men
(3) 30 men (4) 15 men
(5) None of these

20. Wages of 20 boys for 15 days is ₹ 9000. If the daily wage of a man is one and half times that of a boys, how many men must work for 30 days to earn ₹ 13500?
(1) 12 men (2) 20 men
(3) 16 men (4) 10 men
(5) None of these

21. Wages of 10 women for 5 days is ₹ 1250. The daily wage of a man is twice that of a woman. How many men must work for 8 days to earn ₹ 1600?
(1) 5 men (2) 8 men
(3) 4 men (4) 6 men
(5) None of these

22. If 5 men with 7 boys can earn ₹ 3825 in 6 days and 2 men with 3 boys can earn ₹ 1050 in 4 days, in what time will 7 men with 6 boys earn ₹ 22500?
(1) 15 days (2) 20 days
(3) 25 days (4) 30 days
(5) None of these

23. If 3 men with 4 boys can earn ₹ 2100 in 7 days and 11 men with 13 boys can earn Rs 8300 in 8 days, in what time will 7 men with 9 boys earn ₹ 11000?
(1) 16 days (2) 18 days
(3) 14 days (4) 20 days
(5) None of these

24. If 12 men with 13 boys can earn ₹ 4893.75 in 3 days and 5 men with 6 boys can earn ₹ 3562.50 in 5 days, in what time will 3 men with 4 boys earn ₹ 4500?
(1) 8 days (2) 7 days
(3) 10 days (4) 9 days
(5) None of these

25. 5 men and 5 women earn ₹ 660 in 3 days. 10 men and 20 women earn ₹ 3500 in 5 days. In how many days can 6 men and 4 women earn ₹ 1060?
(1) 5 days (2) 10 days
(3) 6 days (4) 12 days
(5) None of these

26. 4 men and 6 boys earn ₹ 1600 in 5 days. 3 men and 7 boys earn ₹ 1740 in 6 days, in what time will 7 men and 6 boys earn ₹ 3760?
(1) 6 days (2) 8 days
(3) 10 days (4) 12 days
(5) None of these

27. A, B and C together earn ₹ 2700 in 18 days. A and C together earn ₹ 940 in 10 days. B and C together earn ₹ 1520 in 20 days. Find the daily earning of C.
(1) ₹ 20 (2) ₹ 40
(3) ₹ 10 (4) ₹ 15
(5) None of these

28. A, B and C together earn ₹ 1500 in 10 days. A and C together earn ₹ 800 in 8 days. B and C together earn ₹ 900 in 9 days. Find the daily earning of B.
(1) ₹ 50 (2) ₹ 60
(3) ₹ 40 (4) ₹ 30
(5) None of these

29. Two men A and B working together complete a piece of work which it would have taken them respectively 12 and 18 days to complete if they worked separately. They received in payment ₹ 149.25. Find their shares.
(1) ₹ 89.55 , ₹ 59.70
(2) ₹ 90.55 , ₹ 58.70
(3) ₹ 91.55 , ₹ 57.70
(4) Can't be determined
(5) None of these

30. A, B and C together do a piece of work for ₹ 53.50. A working alone could do it in 5 days, B working alone could do it in 6 days and C working alone could do it in 7 days. How should the money be divided among them?
(1) ₹ 5,10,15 (2) ₹ 10,15,20
(3) ₹ 21,17.5,15 (4) ₹ 25,30,35
(5) None of these