Home work

(1). 1 field in 30 days $= \frac{1}{30}$

Reap in 25 days $= 25 \times \frac{1}{30_6} = \frac{5}{6}$ days

$\therefore \frac{5}{6}$ part of the field would he have reaped in 25 days.

2. Farmers one day work $= \frac{1}{10}$
his wife's one day work $= \frac{1}{8}$

total one day's work $= \frac{1}{10} + \frac{1}{8} = \frac{4+5}{40}$
$= \frac{9}{40}$

Total work $= \frac{40}{9} = 4\frac{4}{9}$

3. A's one day ~~work~~ job is $= \frac{1}{10}$
B's 1 day job is $= \frac{1}{15}$

Job done by both A and B in one day
$= \frac{1}{10} + \frac{1}{15} = \frac{3+2}{30} = \frac{5}{30} = \frac{1}{6}$

For $\frac{1}{6}$ part of work the earning is $= ₹ 3500$
So, for 1 part of work the earning is =
$= ₹ 3500 \times 6$
Therefore,
For $\frac{1}{10}$ part of work earning.

$= ₹ \frac{3500}{10} \times 6 = ₹ 2100$

for $\frac{1}{15}$ part of work earning

$= ₹ \frac{3500 \times 6}{15} = ₹ 1400$

∴ A gets ₹ 2100 and B gets ₹ 1400

4. A and B together can paint a room in 2 days.

A alone can paint it in 3 days.

The work done by A in 1 day $= \frac{1}{3}$

The work done by both A and B in 1 day $= \frac{1}{2}$

$= \frac{1}{2} - \frac{1}{3}$

$= \frac{3}{6} - \frac{2}{6}$

$= \frac{1}{6}$

$= 6$ days

Hence, B alone can complete the work in 6 days.

5. A can do $\frac{1}{5}$ th of work in 2 days

That the total work is done by

A in $2 \div \frac{1}{5} = 2 \times \frac{5}{1} = 10$ days

B can do $\frac{2}{3}$ rd work in 8 days

That the total work is done by

B in $= 8 \div \frac{2}{3} = 8 \times \frac{3}{2} = 12$ days

B's one day work $= \frac{1}{12}$

(A+B)'s one day work $= \frac{1}{10} + \frac{1}{12}$

$= \frac{6+5}{60} = \frac{11}{60}$

if A and B's one day work $= \frac{11}{60}$

They can complete the work together in

$\frac{60}{11}$ days $= 5\frac{5}{11}$ days

6. The first tap fills a tank in 20 minutes
The second tap fills tank in 12 minutes
So,

In 1 minute first tank fills $= \frac{1}{20}$ parts

In 1 minute 2nd tank fills $= \frac{1}{12}$ parts

In 1 minute both 1st an 2nd tap fills

$= \frac{1}{20} + \frac{1}{12} = \frac{3+5}{60} = \frac{8}{60}$ part $= \frac{2}{15}$ parts

Both first and second tap will fill the tank in $\frac{1}{\frac{2}{15}}$ minutes

$= 1 \times \frac{15}{2} = \frac{15}{2}$ minutes

$= 7\frac{1}{2}$ minutes

7. A can do a work in 6 days
B can do a work in 8 days

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

B's 1 day's work $= \frac{1}{8}$

(A+B)'s 1 days work $= \frac{1}{6} + \frac{1}{8} = \frac{4+3}{24} = \frac{7}{24}$

(A+B)'s 2 days work $= 2 \times \frac{7}{24_{12}} = \frac{7}{12}$ days

remaining work.

$= 1 - \frac{7}{12} = \frac{5}{12}$

The ~~work~~ is done remaining work is done by B.

Complete work is done by A in 6 days

$\frac{5}{12}$ of the work is done by A in

$= (6 \times \frac{5}{12_2}) \text{ day} = \frac{5}{2}$ days

$= 2\frac{1}{2}$ days

A can finish the work in $2\frac{1}{2}$ days

8. A one day work is $\frac{1}{40}$

So, 8 day work is $\frac{8}{40} = \frac{1}{5}$

After 8 days the work left is $= 1 - \frac{1}{5} = \frac{4}{5}$

B finish remaining 4/5 work in 16 days so one day work for B is

$\frac{4}{\frac{5}{16}} = \frac{4}{5} \div 16 = \frac{4}{5} \times \frac{1}{16} = \frac{1}{20}$

Now if both do work together then one day's work is $\frac{1}{40} + \frac{1}{20} = \frac{1+2}{40} = \frac{3}{40}$

So, total number of days taken are $= \frac{40}{3}$

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

9. A can do a work in = 10 days

B can do a work in = 15 days

A's 1 day's work $= \frac{1}{10}$

B's 1 day's work $= \frac{1}{15}$

(A+B)'s 1 day work $= \frac{1}{10} + \frac{1}{15} = \frac{3+2}{30}$

$= \frac{5}{30} = \frac{1}{6}$

Let us consider (A+B) worked together for x days.

So (A+B)'s x day work $= \frac{x}{6}$

Remaining work $= (1 - \frac{x}{6})$ in = 5 days

So, A's 1 day work $= \frac{1 - \frac{x}{6}}{5} = \frac{6-x}{30}$ ---(2)

from (1) and (2), we get

$\frac{1}{10} = \frac{6-x}{30} \Rightarrow \frac{30}{10} = 6 - x$

$\Rightarrow 3 = 6 - x$

$\Rightarrow x = 6 - 3 = 3$

∴ Both A and B can do the work together in 3 days.

10. Given,

3 women or 5 girls can complete a piece of work in 17 days.

3 women = 5 girls

1 women = $\frac{5}{3}$ girls ------(1)

Now we have to convert both in either of women or girls.

7 women + 11 girls

= 7 × ($\frac{5}{3}$) girls + 11 girls [from 1]

= $\frac{(35+33)}{3}$ = $\frac{68}{3}$ girls can complete the work in how many days.

if 5 girls can finish the work in 17 days

Then $\frac{68}{3}$ girls can finish the same work in how many days

$\frac{68}{3} \times \frac{17}{5} = \frac{1156}{15}$ day.