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① Ramadin can reap a field in 30 days. What part of the field would he have reaped in 25 days?

Sol: Days taken for reaping the whole field = 30 days

~~Days taken for reaping the fin~~

In 1 day, he can reap = $\frac{1}{30}$ part of the field

In 25 days, he can reap = $\frac{25}{30} \cdot \frac{1}{30} \times 25$

$= \frac{25}{30_6} = \frac{5}{6}$ part of field

② A farmer can reap a field in 10 days while his wife can do it in 8 days. If they work together, in how much time they can reap the field?

Sol: ~~Fie~~ ~~Farmer~~ ~~ca~~ In 10 days, farmer can reap.

In 1 day, farmer can reap $\frac{1}{10}$ days.

In 8 days, his wife can reap.

In 1 day, his wife can reap $\frac{1}{8}$ days.

Together in one day ~~they~~ they will reap = $\frac{1}{10} + \frac{1}{8} = \frac{4+5}{40} = \frac{9}{40}$ portion

$\frac{9}{40}$ portion is reaped in 1 days.

Completely field reaped = $\frac{40}{9}$ days

③ A can do a job in 10 days while B can do it in 15 days. If they work together and earn 3500 ₹, how should they share the money?

Sol: A can do work in 10 days
B can do work in 15 days
Both total time = 25 days.
Earning = 3500

A's share = $\frac{10}{25} \times 3500$

$= \frac{140}{700} \times 3500$

= ₹ 1400

B's share = 3500 − 1400
= ₹ 2100

④ A and B together can paint a room in 2 days. A alone can do it in 3 days. How many days would B require working alone to paint the room?

Sol: A and B both can paint in 2 days.
In 1 day, they will paint $\frac{1}{2}$ ~~of the room.~~

A alone can paint in 3 days.
In 1 day, A alone ~~can~~ can paint $\frac{1}{3}$.

B alone ~~can paint~~ $\frac{1}{2} - \frac{1}{3}$

$= \frac{3-2}{6} = \frac{1}{6}$ work.

∴ B alone can paint the room in 6 days.

⑤ A can do $\frac{1}{5}$th of a certain work in 2 days and B can do $\frac{2}{3}$ of it in 8 days. In how much time can they together complete the work?

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

A's one day work $= \frac{\left(\frac{1}{5}\right)}{2} = \frac{1}{10}$

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

B's one day work $= \frac{\left(\frac{2}{3}\right)}{8} = \frac{1}{12}$

Together their 1 day's work $= \frac{1}{10} + \frac{1}{12}$

$= \frac{11}{60}$

∴ they will complete the work in $\frac{60}{11}$ days.

⑥ One tap fills a tank in 20 mins and another fills it in 12 mins. The tank being empty and if both taps are opened together, in how many mins the tank will be full?

Sol: Tap 1 fills tank in 20 mins.

In 1 min, it will fill $\frac{1}{20}$ of the tank.

Tap 2 fills tank in 12 mins

In 1 min, it will fill $\frac{1}{12}$ of the tank.

Both together in 1 min will fill $= \frac{1}{12} + \frac{1}{20}$

$= \frac{5+3}{60}$

$= \frac{8}{60} = \frac{2}{15}$ part.

∴ the tank will fill in $\frac{15}{2}$ mins.

(7) A can do a work in 6 days and B can do it in 8 days. They worked together for 2 days and then B left the work. How many days will A require to complete the work?

Sol:- A can complete work in 6 days.
In 1 day, A will complete $\frac{1}{6}$ of the work.
B can complete work in 8 days.
In 1 day B will complete $\frac{1}{8}$ of the work.
in 1 day

Both together will do $= \frac{1}{8} + \frac{1}{6}$

$= \frac{3+4}{24}$

$= \frac{7}{24}$

Both together will do in 2 days $= \frac{7}{24} \times 2$

$= \frac{7}{12}$ of the work.

Remaining work $= 1 - \frac{7}{12}$

$= \frac{5}{12}$ work.

~~In 6 days A will do~~ $= \frac{5}{12} \times 6$

$= \frac{5}{2}$ work

A can do a work in 6 days
" " " $\frac{5}{12}$ " " $= \frac{5}{12} \times 6$

$= \frac{5}{2}$ days

(8) A can do a piece of work in 40 days. He works at it for 8 days and then B finishes the remaining work in 16 days. How long will they take to complete the work if they do it together?

Sol: A can do work in 40 days.
In 1 day, he can do $\frac{1}{40}$ work
In 8 days, he will do $\frac{8}{40}$ work.

Remaining work $= 1 - \frac{8}{40}$

$= \frac{32}{40_5} = \frac{4}{5}$ work.

$\frac{4}{5}$ work is done by B in 16 days.

Whole work done by B in $= \frac{5}{4} \times 16^4$

$= 20$ days

A and B will together 1 day's work $= \frac{1}{40} + \frac{1}{20}$

$= \frac{3}{40}$

$\therefore$ Both will complete the work in $\frac{40}{3}$ days.