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Class Notes

Covering Full Syllabus

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- Pipe & Cistern
- Time & Distance
- Boat & Stream
- Percentage
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- Discount
- Mixture & Allegation
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- Bar Diagram & Pie Chart
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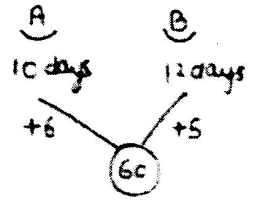
Class 1.

TIME & WORK

(1) A & B can complete a work in 10 and 12 days respectively. A and B start working together and after 3 days, A left the work, find in how many days work will be completed?



A+B
3 days
3×11 = 33

B
60 − 33 = 27/5
= 5 2/5 days

↳ work will be finished in = 3 + 5 2/5 = 8 2/5 days

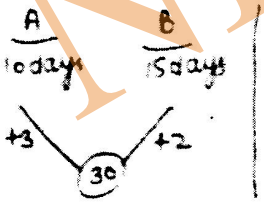
OR

A B

↓

3×6
= 18 + 42/5 = 8 2/5 days

(2) A and B started working together but after some days A left the work and the whole work will complete in 9 days find after how many days A left. if A & B completes the work in 10 & 15 days resp.



A : B

↓ ↓

12/5 9×2 = 18

4 days

(3) 2 men can build a wall in 15 and 20 hour resp but if they work together they use 280 less bricks per hour and build a wall in 12 hours. find the no of bricks in the wall.

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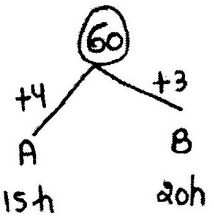

A+B = 7 unit
A+B = 5 unit
2 unit — 280
1 unit — 140

2

Total bricks = 60×140
= 8400 Bricks Ans

A+B = $\frac{60}{12}$ = 5 (Given)

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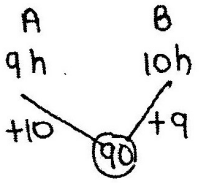
(4) 2 men can build a wall in 9 hrs and 10 hrs resp. But if they work together then they use 10 less bricks per hours and build a wall in 5 hrs. find the no. of bricks in the wall ?



A+B = 19 unit
A+B = 18 unit
1 unit — 10

Total bricks = 90×10 = 900 Ans

A+B = $\frac{90}{5}$ = 18

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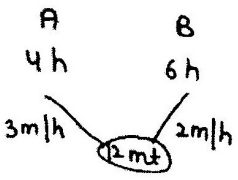
(5) Two candles of same height can burn completely in 4 hrs and 6 hrs resp. If both start burning at same time at their respective constant speed, then find after how much time ratio of their height become 2:3.



$\frac{12-3t}{12-2t} = \frac{2}{3}$

$36-9t = 24-4t$

$5t = 12$

$t = \frac{12}{5} = 2\frac{2}{5} = 2$ hr, 24 min

Ans

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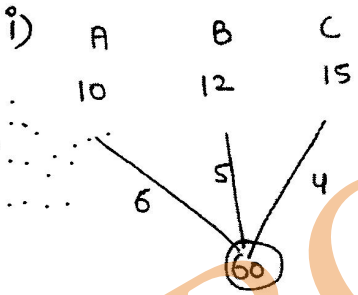
⑥ Three men A, B, C complete the work 10, 12, 15 days.

i) if A, B and C starts work together. After 2 days A left the work and next after 2 days C also left. Then find in how many days the whole work will complete.

ii) A, B, C starts work together, A and B left the work 2 days before the completion of the work, then the whole work will finish in how many days.

iii) if A left the work 2 days before the completion of the work and B left the work 3 days before the completion. work will finish in how many days?

i)

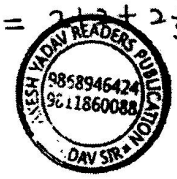


A+B+C — 2 days → 15×2 = 30

B+C — 2 days → 9×2 = 18

B — $\frac{12}{5} = 2\frac{2}{5}$ days

work will finish in = $2 + 2 + 2\frac{2}{5} = 6\frac{2}{5}$ day



OR

60
−12 (A's 2 days)
−16 (C's 4 days)

$\frac{32}{5} = 6\frac{2}{5}$ days (Becoz B works for all time.)

Ans.

ii) A+B+C — 2 days; C — 2 days → 4×2 = 8

60 − 8 = 52

$\frac{52}{15} = 3\frac{7}{15}$

work will finish in = $3\frac{7}{15} + 2 = 5\frac{7}{15}$ days

OR

60
+22 (A&B's 2 days work)

$\frac{82}{15}$

$= 5\frac{7}{15}$ days

Ans

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iii) 60
+12 (A's 2 more days work)
+15 (B's 3 more days work)
$\frac{87}{15} = \frac{29}{5} = 5\frac{4}{5}$ days

(iv) A, B, C starts work together but A left the work after two days. and B left the work 1 day before the completion of the work. In how much time the whole work will be completed?

60
−12 (A's 2 days work)
48 B+C
+5 (B's 1 day work)
$\frac{53}{9} = 5\frac{8}{9}$ days

A+B+C	B+C	C
2d		1d
↓		↓
30	$\frac{26}{9}$	4
	$= 2\frac{8}{9}$	

$2 + 2\frac{8}{9} + 1 = 5\frac{8}{9}$ days.

(v) A, B and C starts work together but after 3 days A left the work, and C left the work 4 day before the completion of work. In how much time the whole work be completed?

✗

A+B+C	B+C	B
3d		4d
↓		↓
45		36

This method fails. & conceptually wrong Becoz we can't justify that C work for 3 days.

60
−18
42
+16
$\frac{58}{9} = 6\frac{4}{9}$ days.

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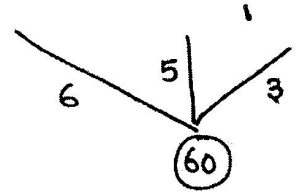
(7) A+B, B+C, C+A can complete a work in 10, 12, 20 days respectively. In how much they alone do the work.

A+B	B+C	C+A
10	12	20

$2(A+B+C) = 14$ हमेशा All करके Half कर दो।

$A+B+C = 7$

$A = 2$ $B = 4$ $C = 1$



$A = \frac{60}{2} = 30$ days

$B = \frac{60}{4} = 15$ days

$C = \frac{60}{1} = 60$ days Ans.

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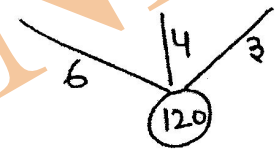
(8) A+B, B+C, C+A can do a work in 20d, 30d and 40 days respectively. In how much time they alone do the work.

A+B	B+C	C+A
20	30	40

$A+B+C = \frac{13}{2} = 6\frac{1}{2}$



$C = \frac{1}{2} \Rightarrow \frac{120}{1/2} = 240$ days

$A = \frac{5}{2} \Rightarrow \frac{120}{5/2} = 48$ days

$B = \frac{7}{2} \Rightarrow \frac{120}{7/2} = 34\frac{2}{7}$ days

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(9) A+B, B+C do a work in 12 and 16 days. if A work for 5 days and B work for 7 days and C complete the remaining work in 13 days. Then find C would complete the work in how many days?

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A+B = 12d, B+C = 16d

4 : 3 : 48

A = 5d, B = 7d, C = 13d

A+B = 5d → 20, B+C = 2d → 6, C = 11d

$48 - 26 = \frac{22}{11} = 2$ → efficiency of C

C would complete the work $= \frac{48}{2} = 24$ day Ans.

B alone $= \frac{B+C}{2} = \frac{48}{1} = 48$ day

1 → B's efficiency

A alone $= \frac{A+B}{1} = \frac{48}{3}$ days.

3 → A's efficiency.

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(10) A+B can do a work in 12 days while B+C in $6\frac{2}{3}$ day ~~so~~ work is completed by A, B, C by working 3, 4 and 7 days. find in how many days A alone would complete the whole work.

A+B = 12d, B+C = $\frac{20}{3}$d

A = 3d, B = 4d, C = 7d

5 : 9 : 60

A+B = 3d → 5×3 = 15, B+C = 1d → 9×1 = 9, C = 6d

$60 - 24 = \frac{36}{6} = 6$ → Efficiency of C

C = 6

B+C = 9 ∴ B = 3

A+B = 5 ∴ A = 2

A alone do the work $= \frac{60}{2} = 30$ days. Ans.

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