Day 4

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1. Rohit 70, 75 and 80

Average $= \frac{(70+75+80)}{3} = \frac{225}{3} = 75$

2. Ages = 10, 12, 14, 16, 18

Average $= \frac{(10+12+14+16+18)}{5} = \frac{70}{5} = 14$

3. Average weight = 10 kg for 5 boxes

Total weight $= 10 \times 5 = 50$ kg

4. Meera - 2 hr/day → 5 days

Total $= 2 \times 5 = 10$ hours

5. Machine → 4 hours

1 = $\frac{1}{4}$ of work $= 0.25$ work

6. Wall painted in 3 hr

2 hr work $= (2/3) = 2/3$ of wall

7. 6 workers finish in 8 days

Total work $= 6 \times 8 = 48$ workers-days

Work per day $\frac{1}{48} = 1/48$ of the work

8. Average of 6 numbers is 15

Sum $= 15 \times 6 = 90$

9. Average score in 4 matches is 50

Total score $= 50 \times 4 = 200$

10. 4 workers finish in 12 days
Total work = $4 \times 12 = 48$
2 works = $48 / 2 = 24$

11. 5 workers finish in 10 days
$5 \times 10 = 50$
10 works = $\frac{50}{10} = 5$ days

12. A and B together = 12 days
1 day work = $1/12$

13. A alone = 20 days = A's 1 day's work = $1/20$
B alone = $1/12 - 1/20 = \frac{(5-3)}{60} = \frac{2}{60} = \frac{1}{30}$

B alone = 30 days

14. Man : 15 days, Son = 20 days
Total = $\frac{1}{15} + \frac{1}{20} = \frac{(4+3)}{60} = \frac{7}{60}$

Time = $\frac{60}{7} = 8.57$ days

15. Average of 5 = 20 → Sum = 100

New average = 18 for 4 number
Sum = $18 \times 4 = 72$
Removed number = $100 - 72 = 28$

16. 10 students avg = 30 $10 \times 30 = 300$
Remove $25 + 35 = 60$ total = 240
New average = $\frac{240}{8} = 30$ (same)

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16. 3 people : 6, 8, 12 days

Rates $\frac{1}{6}, \frac{1}{8}, \frac{1}{12}$

$\frac{4+3+2}{24} = \frac{9}{24} = \frac{3}{8}$ per day

Time $= \frac{8}{3} = 2.67$ days

17. Avg of 8 = 35

Total = 280

Add 40, 45, 50 → total = 280 + 135

= 415

New avg $= \frac{415}{11} = 37.73$

18. Avg of 10 = 25 ⇒ 250

Remove 40 ⇒ New total = 210

New average $= \frac{210}{9} = 23.33$

19. A = 15 days ⇒ 1 day's work $= \frac{1}{15}$

B = 20 days → 1 day's work $= \frac{1}{20}$

A works 5 days → $5 \times \frac{1}{15} = \frac{1}{3}$

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

20. Avg = 30 → Total = 210

Remove 42 = 210 − 42 = 168

avg $= \frac{168}{6} = 28$

21. A = 24, B = 30, C = 40

Rates $= \frac{1}{24} + \frac{1}{30} + \frac{1}{40}$

5 days → $5 \times \frac{1}{10} = \frac{1}{2}$

Left $= \frac{5+4+3}{120} = \frac{12}{120} = \frac{1}{10}$

Work remains $= 1 - \frac{1}{2}$

$= \frac{1}{2}$

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22. $A+B = 10$ days $\rightarrow$ 1 day work $= \frac{1}{10}$

B alone $= 15$ days $\rightarrow \frac{1}{15}$

Let A work x days

$A = x \times \left(\frac{1}{10} - \frac{1}{15}\right) = x \times \frac{1}{30}$

Remaining time $= (12-x)$ days

Work $= \frac{(12-x)}{10}$

Total $= \frac{x}{15} + \frac{(12-x)}{10} = 1$

$\frac{(2x+3(12-x))}{30} = 1$

$2x + 36 - 3x = 30 \rightarrow x = 6$ days

23. Average $= 50 \rightarrow$ Total $= 500$

$+20$

Total $= 520$

New avg $= \frac{520}{10} = 52$

24. Filling rate $= \frac{1}{8}$

Empty rate $= \frac{-1}{12}$

Net rate $= \frac{1}{8} - \frac{1}{12} = \frac{(3-2)}{24} = \frac{1}{24}$ //

25. $A = \frac{1}{10}$ $B = \frac{1}{15}$ $C = \frac{1}{20}$

$\frac{6+4+3}{60} = \frac{13}{60}$

4 days $= 4 \times \frac{13}{60} = \frac{52}{60} = \frac{13}{15}$

Remaining work $= 1 - \frac{13}{15} = \frac{2}{15}$