Day 4

1. $\text{Avg} = \frac{(70 + 75 + 80)}{3}$

$= \frac{225}{3} = 75$

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

$\text{Avg} = \frac{10 + 12 + 14 + 16 + 18}{5}$

$= \frac{70}{5}$

$= 14$

3. Weight = 10 kg
No. of boxes = 5

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

4. work per day = 2 hours ~~/day~~
No. of days = 5

Total = $2 \times 5 = 10$ hours.

5. for 1 hour = 1/8 of total

$= 0.25$

6. 4 hours = 1 work

1 hour = $\frac{1}{4} = 0.25$

6. work done = 3hr
for 2 hour = $\frac{2}{3}$ of work

7. 6 workers finish in 8 days.
~~Total work = 6 × 8 = 48~~
for 1 worker per day = $\frac{1}{6} \times \frac{1}{8}$
$= \frac{1}{48}$

8. Avg = 6
No. of number = 15
sum = 6 × 15 = 90

9. Avg = 50
matches = 4
total = 4 × 50 = 200

10. 4 workers = 4
day = 12
Total = 4 × 12 = 48
for 2 workers ↓ worker ∝ $\frac{1}{\text{day}}$
$\frac{4}{2} \propto \frac{1}{12 \times 2}$
$= 2 \propto \frac{1}{24}$
24 days.

11. 1 worker $\propto \frac{1}{\text{day}}$

$2 \wedge 5 \propto \frac{1}{50 \div 2}$ $\Rightarrow$ $10 \propto \frac{1}{5}$

5 days.

12. ~~A's do~~

A alone = $\frac{1}{20}$

~~B's~~ Total = $\frac{1}{12}$

B's alone = $\frac{1}{12} - \frac{1}{20}$ = ~~$\frac{5-3}{60}$~~ $\frac{2}{60}$ = ~~$\frac{1}{30}$~~

$= \frac{1}{30}$

30 days

13. $\frac{1}{15} + \frac{1}{20} = \frac{(4+3)}{60} = \frac{7}{60}$

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

14. Avg = 20 } for 5
sum = 100

Avg = 18 } for 4 sum = 4×18
sum = ? = 72

~~100 - 75~~

100 - 72

∴ Removed number = 28

15. 10 student avg = 30
total = 30 × 10 = 300

Remove 25 + 35 = 60
total = 300 - 60 = 240

$$avg = \frac{240}{8} = 30$$

16. 3 people : 6, 8, 12 days.

1/6, 1/8 and 1/12

$$\frac{1}{6} + \frac{1}{8} + \frac{1}{12} = \frac{(4+3+2)}{24}$$

$$= \frac{9}{24} = \frac{3}{8}$$

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

17. Avg of 8 = 35
Total = 280

Add 40, 45, 50
total = 280 + 135 = 415

New avg = $\frac{415}{n}$ = 57.73

18. Avg of 10 = 25
total = $10 \times 25 = 250$

Remove 10:
total = 210

$Avg = \frac{210}{9} = 23.33$

19. A – 15 days.
1 pu day = 1/15

B = 20 days
pu day = 1/20

If A work for 5 day = $\frac{1}{15} \times 5 = \frac{1}{3}$

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

20. Avg = 30
total = 210

Remove 42
total = 210 − 42 = 168

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

21. A = 24, B = 30, C = 40
$= \frac{1}{24}$ $= \frac{1}{30}$ $= \frac{1}{40}$

LCM = 120

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

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

work left = $1 - \frac{1}{2} = \frac{1}{2}$ work

22. A + B = 10

$= \frac{1}{10}$

B's alone = 15 = $\frac{1}{15}$

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

Remaining = $(12 - x)$ days.

work in time = $\frac{(12-x)}{10}$

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

$$\frac{3x + 24 - 2x}{30} = 1$$

$3x + 24 - 2x = 30$

$x + 25 = 30$

$x = 5$ //

23. Avg = 50
total = 500

add = 20
total = 520

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

24. filling rate = 1/8
Emptying rate = -1/12

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

Time taken = 24 hours.

25. A = $\frac{1}{10}$

B = $\frac{1}{15}$

C = $\frac{1}{20}$

A+B+C = $\frac{1}{10} + \frac{1}{15} + \frac{1}{20} = \frac{6+4+3}{60}$

= $\frac{13}{60}$

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

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