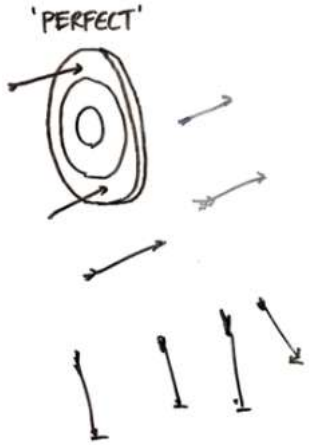
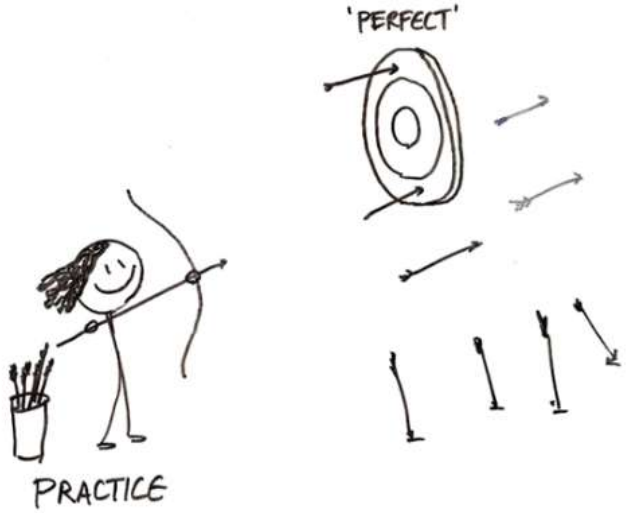
- Practice:

1. A pupil's marks were wrongly entered as 76 instead of 45. Due to that the average marks for the class got increased by half (1/2). The number of pupils in the class is:
2. The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, then the weight of B is:
3. The average monthly income of P and Q is Rs. 6050. The average monthly income of Q and R is Rs. 7250 and the average monthly income of P and R is Rs. 5700. The monthly income of P is:



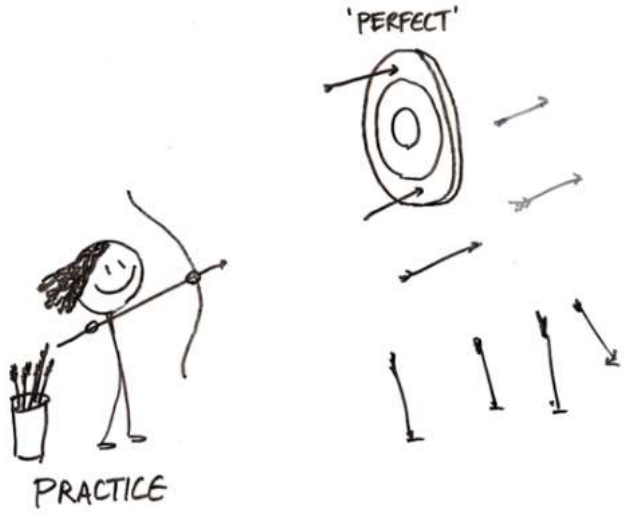
- **Practice:**

1. A man purchased two plots for Rs. 5,00,000. On one he gains 15 % while on the other he losses 15%. Find how much does he gain or lose in the transaction.
2. 56% of Y is 182. What is Y?
3. Y has to score 40% marks to pass. He gets 20 marks and fails by 40 marks. The maximum marks of the exam are?
4. The value of a machine depreciates at the rate of 10% every year. It was purchased 3 years ago. If its present value is Rs. 8748, its purchase price was?



- **Practice:**

5. 45% of 750 - 25% of 480 = ?
6. 40% of 75 + 80% of 25 = K% of 250. Find the value of K?
7. What will come in place of the question mark(?) in the following question ➔ 56% of 870 + 82% of 180 = 32% of 90 + ?
8. The value of Xerox machine depreciates at the rate of 10 % per annum. If the cost of machine at present is Rs. 75,000 then what was the value of machine before 2 years?



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COMPASS

M T W T F S S

Date :

(1) $A = \frac{1}{20}$ $B = \frac{1}{30}$ $C = \frac{1}{60}$

Work by A

$2 \times \frac{1}{20} = \frac{1}{10}$

$A+B+C = \frac{1}{20} + \frac{1}{30} + \frac{1}{60} = \frac{1}{10}$

$work = \frac{1}{10} + \frac{1}{10} = \frac{2}{10} = \frac{1}{5}$

$5 \times 3 = 15$ days

(2) $A = \frac{1}{6}$ $B = \frac{1}{8}$

$A+B+C = \frac{1}{3}$

$\frac{1}{6} + \frac{1}{8} + C = \frac{1}{3}$

$\frac{1}{C} = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$

$A = 3 \times \frac{1}{6} = 2$ $B = 3 \times \frac{1}{8} = \frac{3}{8}$

$C = 3 \times \frac{1}{24} = \frac{1}{8}$

$w = \frac{1}{2} + \frac{3}{8} + \frac{1}{8} = 1$

Payment $= \frac{\frac{1}{8}}{1} \times 3200 = 400$

(3) $6M + 8B = \frac{1}{10} \times 6$

$26M + 48B = \frac{1}{2}$

$36M + 48 = \frac{3}{5}$

$26M + 48 = \frac{1}{2}$ ($M = \frac{1}{100}$)

$10M = \frac{3}{5} - \frac{1}{2} = \frac{1}{10}$

$8B = \frac{1}{10} - \frac{6}{100} = \frac{4}{100} = \frac{1}{25}$

$B = \frac{1}{200}$

$15 \times \frac{1}{100} + 20 \times \frac{1}{200} = \frac{15}{100} + \frac{20}{200} = \frac{15}{100} + \frac{10}{10}$

$= \frac{25}{100} = \frac{1}{4}$

Time = 4 days

(4) A - 80% in 20

$A = \frac{80\%}{20} = 4\%$

A+B - 20% - 3 days $= \frac{20\%}{3} = 6.6$

B combined $= 6.6\% - 4\% = 2.6\%$

~~B = (A+B) - A = 6~~ Time $= \frac{100\%}{2.6\%} = 37.5$ d

(5) $A = \frac{1}{18}$ $B = \frac{1}{15}$

W = $10 \times \frac{1}{15} = \frac{2}{3}$

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

Time $= \frac{\frac{1}{3}}{\frac{1}{18}} = 6d$

(6) $10w = \frac{1}{7}$ w/d $10c = \frac{1}{14} = \frac{1}{140}$

$= \frac{1}{70}$

$5 \times \frac{1}{70} + 10 \times \frac{1}{140} = \frac{5}{70} = \frac{10}{140}$

$= \frac{1}{14} + \frac{1}{14} = \frac{1}{7}$

Time = 7

M T W T F S S

COMPASS

Date :

⑥ $R = \frac{32}{6} = \frac{16}{3}$ $K = \frac{40}{5} = 8$

$\frac{16}{3} + 8 = \frac{16}{3} + \frac{24}{3} = \frac{40}{3}$

$\frac{\frac{110}{40}}{\frac{40}{3}} = \frac{110 \times 3}{40} = \frac{330}{40} = 8.25$

⑦ $A = 4x$ $B = 7x$

$A = 4x + 0.5 \times 4x = 6x$

$B = 7x - 0.25 \times 7x = 5.25x$

$\frac{6x}{5.25x} = \frac{8}{7}$

$6x \times 7 = 5.25x \times 8 \Rightarrow 42x = 42$

⑨ $A \to 4$ $B \to 8$

$C \to 14$

$A = \frac{I}{2} - 4$

$I - \left(\frac{I}{2} - 4\right) = \frac{I}{2} + 4$

$B = \frac{1}{2}\left(\frac{I}{2} + 4\right) + 8 = \frac{I}{4} + 2 + 8 = \frac{I}{4} + 10$

$\frac{I}{2} + 4 - \left(\frac{I}{4} + 10\right) = \frac{I}{4} - 6$

$\frac{I}{4} - 6 = 14 \Rightarrow \frac{I}{4} = 20 \Rightarrow I = 80$

⑧ $R + S = 32 \Rightarrow R = 24$ y

$F + 4 = 2(R + 4) = 2 \times 28 = 56$ $F = 52$ y

$M - 2 = 2(R - 2) = 2 \times 22 = 44 \Rightarrow M = 46$

$F + M = 52 + 46 = 98$ y

⑤ R G

R age = 1994 R

G age = 1994 − G

$1994 - G = \frac{1}{2}$ (R age − G)

$2(1994 - R) = 1994 - G \Rightarrow 2R - 1996$

$R + G = 3844 \Rightarrow R + (2R - 1996) = 3844$

$3R = 5840 \Rightarrow R = 1946$

$1994 - 1946 = 53$ yrs

⑧ Avg age = 33

Total = $10 \times 33 = 330$

Total age now = $330 + 10 \times 10 = 430$

Age = 40 $y = 7$

$40 + 7 = 47$

$47 - 40 = 7$

2nd $40 + 4 = 44$

$44 - 40 = 4$ years

3rd $30 + 1 = 31$

$31 - 30 = 1$ years

Total = 12 years

Current $430 - 12 = 418$

$10 - 3 = 7$ $\frac{418}{7} = 59.7$ yrs

⑥ $F + 6 = 2(R + 6)$

$M - 2 = 2(R - 2)$

$F = 2R + 12 - 6 = 2R + 6$

$M = 2R - 4 + 2 = 2R - 2$

$F + M = (2R + 6) + (2R - 2) = 4R + 4$

⑨ R

F

$F - 6 = 6(R - 6)$

$F - R = 35$

$F - 6 = 6R - 36$

$F = 6R - 30$

$6R - 30 - R = 35$

$5R = 65$ $F = 6 \times 13 - 30$

$R = 13$ $78 - 30 = 48$

⑩ $C = 3y$

$C = y + m + 2$

$C = y + (y + 3) + 2$

$= 2y + 5$

$3y = 2y + 5$

$y = 5$

$R = 3 \times 5 = 15$ y