

Q-6

-(a)-

Arithmetic mean = 15

$$\text{Mean} = \frac{9+8+10+K+12}{5}$$

$$15 = \frac{39+K}{5}$$

$$75 = 39+K$$

$$K = 75 - 39$$

$$K = 36$$

So

value of $K = 36$

-(b)-

Let initial quantity of sugar and water be = x Sugar initial quantity = $4x$ water initial quantity = $3x$ Total initial quantity = $4x+3x \Rightarrow 7x$

If we 10 liter water

$$= 3x + 10$$

New ratio

4:5

$$4x+10 : 3x+10 = 4:5$$

Initial ratio after adding 10 liter = New ratio

DATE: 1 / 120

$$\frac{4x}{3x+40} = \frac{4}{5}$$

$$20x = 12x + 40$$

$$8x = 40$$

$$x = 5$$

So initial quantity of sugar = $4x$

Putting value of x

$$= 4(5)$$

$$\text{Initial quantity of sugar} = 20$$

-(C)-

$$\text{Volume} = \frac{4}{3} \pi r^3 \rightarrow \text{①}$$

$$\text{Volume} = V$$

$$\pi = 3.14$$

$$r = \text{radius} = 12 \text{ cm}$$

Putting the value in Eq ①

$$V = \frac{4}{3} \times 3.14 \times (12)^3$$

$$= \frac{4}{3} \times 3.14 \times 1728$$

$$= 4 \times 3.14 \times 576$$

$$V = 7234.56$$

Volume of football = 7234.56 cubic centimeters

-(d) -

-10, -8, +6, 40, 102, ?

$$-10 + (2^2 - 2) = -8$$

$$-8 + (4^2 - 2) = 6$$

$$6 + (6^2 - 2) = 40$$

$$40 + (8^2 - 2) = 102$$

$$102 + (10^2 - 2) = 200$$

So Answer is 200

Q-7

-(a) -

$$20\% \text{ of } x = y$$

$$\frac{20}{100} x = y$$

$$0.20x = y \rightarrow \textcircled{1}$$

$$y \text{ is } 100\% \text{ of } 20$$

$$\frac{y}{100} \times 20 \rightarrow \textcircled{2}$$

Putting value of y in Eq (2)

$$= \frac{0.20x \times 20}{100}$$

$$= 0.04x$$

-(b) -

$$\text{Avg} = \frac{P+Q}{2} = 5050$$

$$P+Q \text{ Avg} = 10100 \rightarrow \textcircled{1}$$

$$\text{Avg } Q+R = 6250 \Rightarrow Q+R = 12500 \rightarrow \textcircled{2}$$

DATE: ___/___/20___

$$\text{Avg } P+R = 5200$$

$$P+R = 10400 \rightarrow \textcircled{3}$$

Adding EV $\textcircled{1}$, $\textcircled{2}$ and $\textcircled{3}$ Subtracting $\textcircled{2}$

$$P + \textcircled{2} + \textcircled{1} + R + P + R = 10400 + 12500 + 10400$$

$$P + R + P + R - R - R = 10400 + 10400 - 12500$$

$$2P = 8000$$

$$P = 4000$$

Therefore salary of P = 4000 RS

-(c)-

$$\text{Probability of two heads} = \frac{105}{500} \Rightarrow 0.21$$

$$\text{Probability of one head} = \frac{275}{500} \Rightarrow 0.55$$

$$\text{Probability of No head} = \frac{120}{500} \Rightarrow 0.24$$

-(d)-

Let James x and James dad y

$$y = 4x \rightarrow \textcircled{1}$$

in 14 year

$$\text{James age} = x + 14$$

$$\text{James dad age} = y + 14$$

$$2(x + 14) = (y + 14)$$

$$2x + 28 = (y + 14)$$

$$2x + 28 = \text{putting value of } y$$

$$2x + 28 = 4x + 14$$

$$2x = 14$$

$$x = 7$$

Putting value x in EV $\textcircled{1}$

$$y = 4(7) = 28$$

$$\begin{aligned} \text{So James age} &= 7 \Rightarrow \text{Sum of age} = 7 + 28 \\ \text{James father age} &= 28 \Rightarrow \phantom{\text{Sum of age}} = 35 \end{aligned}$$