



RATIO & PROPORTION_PYQ_CSAT_ENGLISH ANSWER

Answer 1: (A)

Price	40	50	60	75	80
Consumption	60	48	40	32	?

$$\text{Price } 40 : 50$$

$$4 : 5$$

$$\text{Consumption } 60 : 48$$

$$5 : 4$$

$$\text{Price} \propto \frac{1}{\text{consumption}}$$

$$P \quad 75 : 80$$

$$15 : 16$$

$$\text{Consumption } 16 : 15$$

$$16 \text{ units} = 32$$

$$15 \text{ unit} = 30$$

Expected consumption will be = 30 litres

Answer 4: (A)

$$\text{Monthly income of peter} = 4x$$

$$\text{Monthly income of pol} = 3x$$

$$\text{Income} - \text{saving} = \text{expenditure}$$

$$\frac{4x - 6000}{3x - 6000} = \frac{3}{2}$$

$$8x - 12000 = 9x - 18000$$

$$6000 = x$$

$$\text{Monthly income of peter} = 4x$$

$$= 4 \times 6000$$

$$= \text{Rs. } 24000$$

$$\text{Monthly income of pol} = 3x$$

$$= 3 \times 6000$$

$$= \text{Rs. } 18000$$

Answer 2: (D)

Let

$$\text{Age of son} = x$$

$$\text{Age of father} = 9x$$

$$\text{Age of mother} = 8x$$

A.T.Q.

$$8x + 9x = 51$$

$$17x = 51$$

$$x = 3$$

$$\text{Age of son} = 3 \text{ yrs.}$$

Answer 5: (B)

Let

$$\text{the number of boys in the class} = x$$

According to the question

$$\frac{3}{4}x = 18$$

$$x = 18 \times \frac{4}{3}$$

$$x = 24$$

$$\text{Total No. of students in the class} = y$$

$$\frac{2}{3}y = 24$$

$$y = 24 \times \frac{3}{2}$$

$$y = 36$$

$$\text{Number of girls in the class} = 36 - 24 = 12$$

Answer 3: (A)

A

$$\text{Milk} = \frac{1}{3}$$

$$M : W$$

$$A (1 : 2) \times 4$$

$$B (1 : 3) \times 3$$

$$\text{M : W}$$

$$A \quad 4 : 8$$

$$B \quad 3 : 9$$

$$\frac{7 : 17}{7 : 17}$$

B

$$\text{Milk} = \frac{1}{4}$$

Answer 6: (D)

Let

$$\text{the Basic salary of first person} = x$$

$$\text{Basic salary of second person} = y$$

$$\text{Total emoluments} = \text{Basic salary} + \text{allowance}$$

Emoluments of Both the persons are the same



$$X + 65\% \text{ of } x = y + 80\% \text{ of } y$$

$$1.65x = 1.80y$$

$$\frac{x}{y} = \frac{1.80}{1.65}$$

$$X : y = 12 : 11$$

$$\text{Ratio of basic pay of former to latter} = 12 : 11$$

$$\begin{aligned} \text{Total volume} &= \frac{x}{3} + \frac{x}{3} \\ &= \frac{2x}{3} \text{ litres} \end{aligned}$$

$$\text{Amount of water in new mixture} = 50\% \text{ of } \frac{x}{3}$$

$$= \frac{x}{6}$$

$$\begin{aligned} \text{Percent of water in new mixture} &= \frac{\frac{x}{6}}{\frac{2x}{3}} \times 100 \\ &= 25\% \end{aligned}$$

Answer 7: (D)

In vessel A,

Sugar 30g, Water = 180 ml

In vessel B,

Sugar = 40g, Water = 280ml

In vessel C,

Sugar = 20g, Water = 100 ml.

$$\begin{aligned} \Rightarrow \text{Concentration of sugar in vessel A} &= \frac{30}{180} \\ &= \frac{1}{6} \text{ g/ml} \end{aligned}$$

$$\begin{aligned} \Rightarrow \text{Concentration of Sugar in vessel B} &= \frac{40}{280} \\ &= \frac{1}{7} \text{ g/ml} \end{aligned}$$

$$\begin{aligned} \Rightarrow \text{Concentration of Sugar in Vessel C} &= \frac{20}{100} \\ &= \frac{1}{5} \text{ g/ml} \end{aligned}$$

More concentration of sugar = more sweetness of solution

$$\Rightarrow \text{Vessel C} > \text{Vessel A} > \text{Vessel B}$$

\therefore The solution of B is less sweet than solution C.

Answer 8: (A)

Let the amount of Milk sample be = x litres

Now,

$\frac{1}{3}$ rd amount of milk sample is added to the same amount of pure milk

$$\text{Amount of new pure milk} = \frac{x}{3} \text{ litre}$$

Answer 9: (B)

Monthly income of x = 4x

Monthly income of y = 3x

Income – saving = expenditure

$$\begin{aligned} \frac{4x - 6000}{3x - 6000} &= \frac{3}{2} \\ 8x - 1200 &= 9x - 18000 \end{aligned}$$

$$x = \text{Rs. } 6000$$

$$\begin{aligned} \text{Total monthly income} &= 4x + 3x = 7x \\ &= 7 \times 6000 \\ &= \text{Rs. } 42000 \end{aligned}$$

Answer 10: (B)

Let

Age of meera in 2002 = x

Age of meenu in 2002 = $\frac{x}{3}$

Age of meera in 2010 = (x + 8)

Age of meenu in 2010 = $\frac{x}{3} + 8$

According to the question

$$\frac{x}{3} + 8 = \frac{1}{2} \text{ of } (x + 8)$$

$$\frac{x}{3} + 8 = \frac{x}{2} + 4$$

$$x = 24 \text{ yrs.}$$

Age of meera in 2002 = x = 24 yrs.

Age of meenu in 2002 = $\frac{x}{3} = 8$ yrs.

Year of birth of meenu = 2002 - 8 = 1994

**Answer 11: (A)**

Let

the side of cube P = a

Side of cube Q = 2a

Volume of cube P(x) = a^3

Volume of cube Q(y) = $(2a)^3$
 $= 8a^3$

Mass of P(m) = c

Mass of Q(n) = 2c

(\therefore mass of Q = 2 \times mass of P)

Now

$$u = \frac{m}{x} = \frac{c}{a^3}$$

$$v = \frac{n}{y} = \frac{2c}{8a^3} = \frac{c}{4a^3}$$

Hence,

$$V = \frac{u}{4}$$

Answer 12: (A)

Let

The weight of vessel = x kg

Weight of water = y kg

According to question

$$X + y = 40 \quad \dots\dots\dots (1)$$

$$X + \frac{y}{3} = 20 \quad \dots\dots\dots (2)$$

Subtract equation (2) from (1)

$$X + y - x - \frac{y}{3} = 40 - 20$$

$$\frac{2y}{3} = 20$$

$$Y = 30 \text{ kg.}$$

From equation on (1)

$$X = 10 \text{ kg.}$$

Answer 13: (C)

When y units of some other liquid is replaced with x unit of original liquid

$$\text{Total liquid} = \left(1 - \frac{\text{replaced quantity}}{\text{original quantity}}\right)^n$$

$$\begin{aligned} \text{Total liquid} &= \left(1 - \frac{4}{20}\right)^2 \\ &= \frac{4}{5} \times \frac{4}{5} = \frac{16}{25} \end{aligned}$$

It means total quantity of 25 units liquid A is 16 units and liquid B = $25 - 16 = 9$ unit

Required Ratio of A and B = 16 : 9.

Answer 14: (C)

Total amount = Rs. 2500

$$X : Y : Z$$

$$\frac{1}{2} : \frac{3}{4} : \frac{5}{6}$$

$$\frac{1}{2}a + \frac{3}{4}a + \frac{5}{6}a = 2500$$

$$\frac{6a + 9a + 10a}{12} = 2500$$

$$25a = 2500 \times 12$$

$$A = 1200$$

$$X \text{ amount} = \frac{1}{2}a = \frac{1}{2} \times 1200 = 600$$

$$Y \text{ amount} = \frac{3}{4}a = \frac{3}{4} \times 1200 = 900$$

$$Z \text{ amount} = \frac{5}{6}a = \frac{5}{6} \times 1200 = 1000$$

= Greatest amount – lowest amount

$$= 1000 - 600$$

$$= \text{Rs. } 400$$

Answer 15: (B)

Let maximum marks of each paper be 100

So total marks = $100 \times 6 = 600$

Now Acc. to Question

marks scored by student = 60% of 600

$$= 360$$

Marks obtained in first subject =

$$\frac{360}{(5+6+7+8+9+10)} \times 5$$

$$= \frac{360}{45} \times 5 = 40$$

Similarly marks in other subjects are 48, 56, 64, 72 % 80 respectively.

So he scored less than 60% marks (ie 60) in 3 papers.

Answer 16: (B)

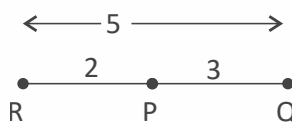
Condition – I



Here PQ : PR

$$3 : 8$$

Condition – II



Here PQ : PR

$$3 : 2$$

Considering both the conditions we can say only 2 conditions are possible so option (b) is the correct Answer.

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