

General Science

(Section II)

Q: NO: 6

a)

Present Age of the Father =  $x$

" " of the Son =  $y$

5 years ago age of father =  $(x-5)$

" " age of son =  $(y-5)$

5 years ago age of father was 3-times

the age of son =  $3(y-5)$

So,

$$x-5 = 3(y-5)$$

$\therefore$  Age of son = 30 years

$$x-5 = 3(30-5)$$

$$x-5 = 3 \times 25$$

$$x-5 = 75$$

$$x = 70 \text{ years} \quad \text{Ans}$$



b)

we know that:

$$\text{Mean} = \frac{\text{Sum}}{\text{Total}}$$

So,

$$50 = \frac{10 + 30 + 50 + Y}{4}$$

∴

$$200 = 90 + Y$$

$$Y = 200 - 90$$

$$\boxed{Y = 110} \text{ Ans}$$

c) Missing Term:

(i) 2, 6, 18, 54, 162

By multiplying 18 with 3 <sup>and</sup>  $\rightarrow 54 \times 3$

(ii) 3125, 256, 27, 4, 1

by taking cube of (3) -

$$14^5, (3)^2, (3)^2, (1)^2$$

d)

Product of two numbers = 320



$$x \times y = 320$$

$$\frac{x}{y} = \frac{1}{5}$$

→ Numbers are:

8 and 40

So,

The difference of their product is:

$$(x^2 - y^2) = (x+y)(x-y)$$

$$(x^2 - y^2) = (8+40)(8-40)$$

$$// = (48)(-32)$$

$$\boxed{x^2 - y^2 = -1536} \text{ Ans}$$

Q: NO: 7

a)

2 scooters are sold in 96000 each.

$$\rightarrow 20\% \text{ gain for 1st} = \frac{20}{100} \times 96000$$

$$// = 19200 \text{ Rs}$$

$$\text{original price of 1st} = 96000 - 19200$$

$$= 76800 \text{ Rs}$$

So, % profit is:

$$\% \text{ profit} = \frac{\text{Profit}}{\text{cost}} \times 100$$

$$= \frac{19200 \times 100}{76800}$$

$$= \boxed{25\%} \text{ for 1st scooter}$$

$$\rightarrow \% \text{ loss for 2nd} = 20\% \text{ of } 96000$$

$$= \frac{20}{100} \times 96000$$

$$= 19200 \text{ Rs}$$

$$\text{original price} = 96000 + 19200$$

$$= 115200 \text{ Rs}$$

So

$$\% \text{ loss} = \frac{\text{loss}}{\text{original}} \times 100$$

$$= \frac{19200 \times 100}{115200}$$

$$= \boxed{16.6\%} \text{ for 2nd scooter}$$

$$\text{Total \% gain and loss} = 25 + 16.6$$

$$= \boxed{41.6\%} \text{ Ans}$$



b)

Hours	days	Men
10	20	195
13	15	x

$$\frac{x}{195} = \frac{10}{13} \times \frac{20}{15}$$

$$x = \frac{40}{39} \times 195$$

$$x = 200 \text{ men}$$

d)

$$V = \frac{1}{3} (W \times L \times H)$$

$$H = 3 \text{ cm}$$

$$W = L$$

$$V = 372 \text{ cm}^3$$

$$372 = \frac{1}{3} (L \times L \times 3)$$

$$\sqrt{372} = \sqrt{L^2}$$

$$L = \sqrt{372}$$

$$P = 4L$$

$$P = 4 \sqrt{372} = 77.15 \text{ cm} \text{ Ans}$$



Q: NO: 8

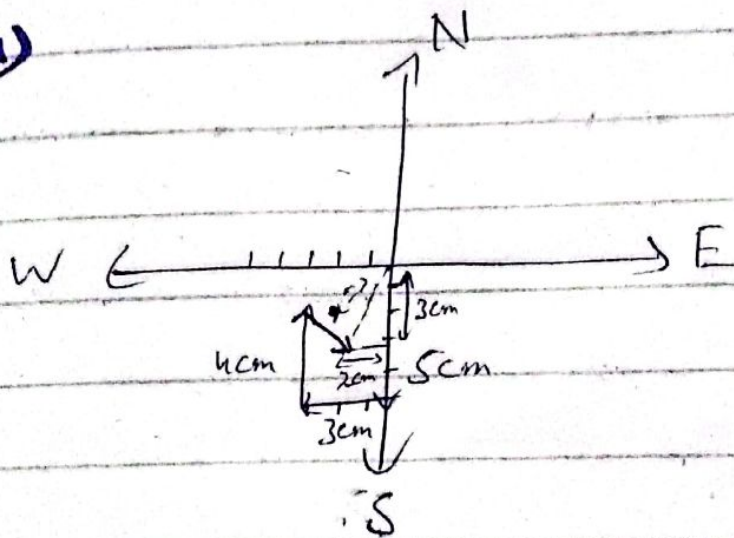
c)

= 16 Triangles Total

b)

=  $\frac{3}{8}$  probability of raisin slices

a)



Perpendicular = 2km

Base = 3km

$$\text{Hypotenuse}^2 = \text{Base}^2 + p^2$$

$$H^2 = 3^2 + 2^2$$

$$\sqrt{H^2} = \sqrt{9 + 4}$$

$$H = \sqrt{13} = 3.60 \text{ km Ans}$$