

Section II

Q6

a. five years ago

let age of father ~~was~~ x ^{5m} father = x
 age of father ~~was~~ $3x - 5$ ^{5m} father = $3(x - 5)$

Now,

son's age = 30

current age of father = ?

sol, -As, $x = 30$ now.so, acc. to condition $3(x - 5) = y$

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

$$3(25) = y$$

$$75 = y$$

As, this is the age before 5 years

so Now $75 + 5 = 80$

so, father's age is 80 now

b

mean of 10, 30, Y , 50 is 50 $Y = ?$ as, mean = $\frac{10 + 30 + Y + 50}{4}$

$$50 = \frac{90 + Y}{4}$$

$$90 + Y = 200$$

$$Y = 200 - 90$$

$Y = 110$

(2)

① missing term = ?

2, 6, 18, 54, _____

$2 \times 3 = 6$

$6 \times 3 = 18$

$18 \times 3 = 54$

$54 \times 3 = 162$

Rough

2, 6, 18, 54
2 x 3 = 6
6 x 3 = 18
18 x 3 = 54

hence,

2, 6, 18, 54, 162

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

$1^2 = 1$

$2^2 = 16$

$3^2 = 27$

$4^4 = 16 \times 16 = 256$

$5^5 = 3125$

3125, 256, 27, 4, 1

27 answer.

$\frac{16}{2} = 8$
 $\frac{8}{2} = 4$

$\frac{3125}{5} = 625$

$\frac{3125}{5} = 625$
 $\frac{625}{5} = 125$
 $\frac{125}{5} = 25$
 $\frac{25}{5} = 5$
 $\frac{5}{5} = 1$

$\frac{256}{4} = 64$
 $\frac{64}{4} = 16$
 $\frac{16}{4} = 4$

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 $\frac{16}{4} = 4$

(2)

Product of 2

numbers = 320

let 1st no. = x

2nd no. = y

$x \times y = 320 \rightarrow (A)$

Ratio = x : y = 1 : 5

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

finds. $x^2 - y^2 = ?$

sol:-

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

$$x = \frac{1}{5}y \rightarrow (C)$$

as, (A) is $xy = 320 \rightarrow (B)$

put in (B)

$$x y = 320$$

$$\frac{1}{5}y \times y = 320$$

$$\frac{1}{5}y^2 = 320$$

$$y^2 = 320 \times 5$$

$$y^2 = 1600$$

$$y = 400$$

As, (C) is

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

$$x^2 = \frac{1}{25}y^2$$

$$x^2 = \frac{1}{25} \times 1600$$

$$= \frac{320}{5}$$

$$x^2 = 64$$

Ans, $x^2 = y^2$

~~64 = 1600~~

$$\begin{array}{r} 1600 \\ - 64 \\ \hline 1536 \end{array}$$

hence, $y^2 = x^2$

$$1600 - 64 = 1536$$

required diff is 1536 ans.

Q7

c) If $A = \{a, e, i, o, u\}$ $U = \{a, b, c, \dots, z\}$
 $A' = ?$

$$A' = U - A = \{a, b, c, \dots, z\} - \{a, e, i, o, u\}$$

$$A' = \{b, c, d, f, g, h, j, k, l, m, n, p, q, r, s, t, v, w, x, y, z\}$$
 ans.

d)

$$Vol = 372 \text{ cm}^3 \text{ (square pyramid)}$$

$$h = 3 \text{ km}$$

Perimeter of base = ?

4

$$Vol = \frac{ln \times h}{3}$$

Area

$$V = \frac{1}{3} (A_{base} \times h)$$

$$372 \times 3 = A_{base} \times 3 \text{ km}$$

$$h = 3 \text{ km}$$

$$= 3 \times 1000 \text{ m}$$

$$= 3000 \text{ m}$$

$$= 3000 \times 100 \text{ cm}$$

$$372 \times 3 = A_{base} \times 300000 \text{ cm}$$

$$372 \times 3 = A_{base}$$

$$\frac{300000}{100,000}$$

$$\begin{array}{r} 372 \\ \times 100,000 \\ \hline 37,200,000 \end{array} = A_{base}$$

$$\begin{array}{r} 93 \\ \times 25,000 \\ \hline 2,325,000 \end{array} = A_{base}$$

$$Area = l^2$$

$$l^2 = \frac{93}{25000}$$

$$A_{base} = 0.00372$$

$$l^2 = \sqrt{0.00372}$$

$$l = \sqrt{\frac{372}{100000}}$$

$$\begin{array}{r} 372 \\ \times 100,000 \\ \hline 37,200,000 \end{array}$$

$$\begin{array}{r} 372 \\ \times 25,000 \\ \hline 9,300,000 \end{array}$$

$$\begin{array}{r} 2 \overline{) 372} \\ \underline{2} \\ 172 \\ \underline{174} \\ 31 \end{array}$$

b. -
 mon : 4 hours : day
 195 : 10 : 20
 x : 13 : 15

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

$$x = \frac{200 \times 195}{13 \times 15}$$

$$x = 200 \text{ men} \quad \text{ans.}$$

a. -

two scooters sale = Rs 96000

In 1st sale, Profit = 20%

In 2nd, Loss = 20%

gain or loss % in total = ?

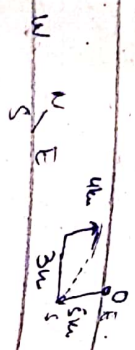
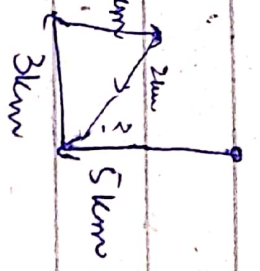
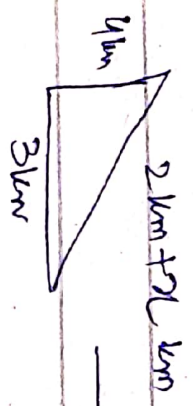
Q8 :-

In 1st sale 20% profit

Gain of

Please solve Q8, how to find total.

Q8



$$xy^2 = 3^2 + 4^2$$

$$= 9 + 16$$

$$= 25$$

$$(x+2)^2 = 25$$

$$x^2 + 4x = 25$$

$$x^2 + 4x - 25 = 0$$

$$x^2 + 7x - 3x - 21 = 0$$

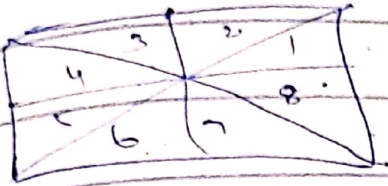
$$x(x+7) - 3(x+7) = 0$$

$$x = 3$$

hence, cow is 3 km far from wind point

c-

No. of triangles

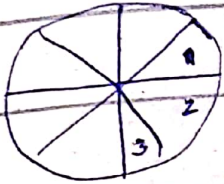


No. of diagonals = 2

No. of blocks = 8

hence No. of triangles = $8 \times 2 = 16$

b

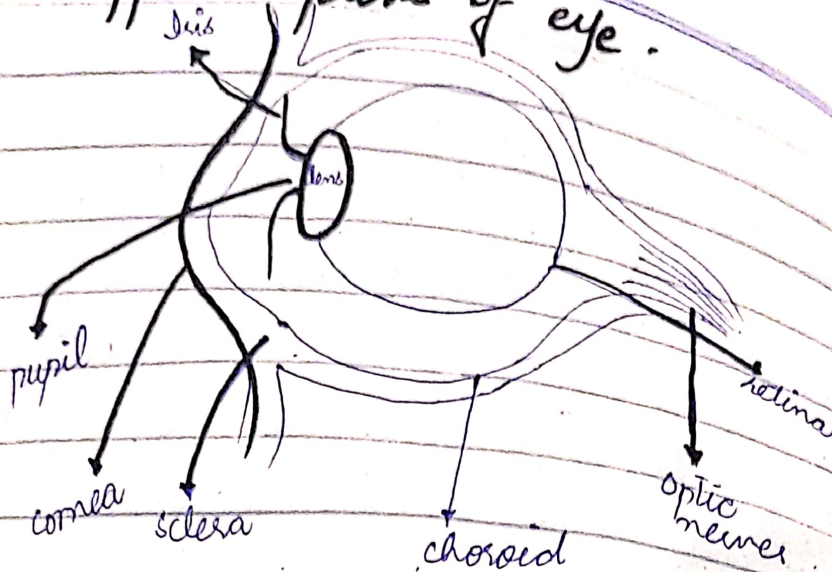


$$N(S) = 8$$

$$N(R) = 3$$

$$P(S) = \frac{N(R)}{N(S)} = \frac{3}{8} \text{ ans.}$$

Different parts of eye.



Introduction :-

Eye is the sensitive part of body. It contains different parts which includes

Sclera :-

This is the outermost part of eye, its function is to protect it

Choroid :-

It contains blood vessels to nourish it.

Cornea :-

It is transparent, front part of the eye. Light waves enter into the cornea. It bends the light waves & then enter in eye.

Iris :-

It is a pigmented muscle whose function is to control the amount of light entering into the eye.

Pupils It is the exact aperture from which light enters into the eye.

Iris controls the opening of the pupil to get the amount of light.

Lens:-

It focus all the light on a single point called retina.

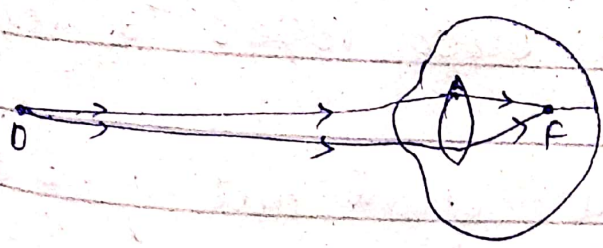
Retina:-

It then forms the image. Optic nerves send nerve signals to brain to get the image.

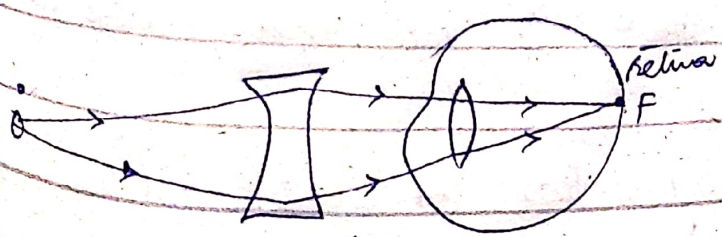
Near Sightedness:- (myopia)

Near sightedness is an eye disorder where near objects can easily be seen but difficult to see far objects. Light is focussed and image formed in front of retina.

Correctness It can be corrected by concave lens.



(a) Myopic eye



concave lens

(b) Correctness of myopia

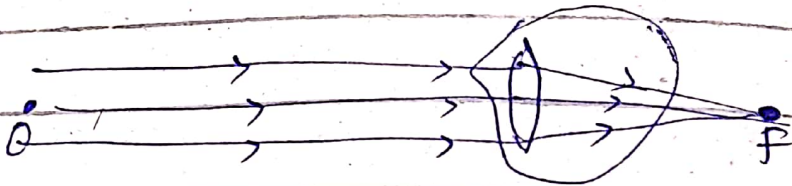
(9)

Far Sightedness (Hyperopia)

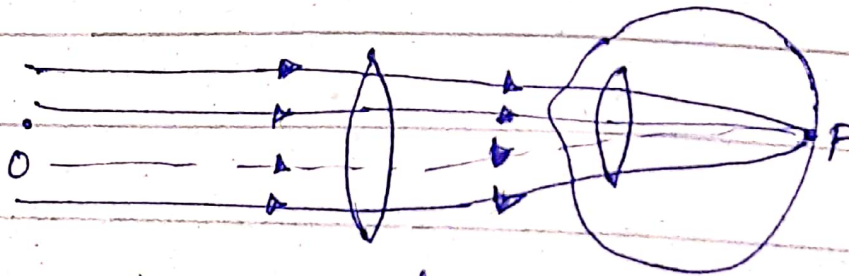
Image formed behind retina instead of on retina. It is an eye disorder where far objects can easily be seen but near objects do not.

Correctness:-

It can be corrected by convex lens.



(a) Hyperopia



correctness of hyperopia (convex lens).