

TOOBA GUL BATCH: 339
GENERAL SCIENCE & ABILITY

SECTION-II

Q. No. 6.

a-Three candidates ---

Sol:- Let the three candidates be x , y and z

Votes received by $x = 15,000$

Votes received by $y = 10,000$

Votes received by $z = 8,000$

Sum of votes of all three candidates = sum
of votes of x + sum of votes of y + sum of
votes of z

$$= 15000 + 10000 + 8000$$

Total votes = 33000

Percentage of total votes of the winning
candidate = $\frac{\text{Votes of winning candidate} \times 100}{\text{Total votes}}$

$$= \frac{15000 \times 100}{33000}$$

$$= \boxed{45.45\%}$$

Hence, the percentage of votes of winning candidate is 45.45%.

b - The ratios - - -

Sol: The ratio of 3 angles of triangle = 3:4:5
let the angles be = $3x$, $4x$ and $5x$

As we know:

Sum of all angles of triangle = 180°

$$\text{So, } 3x + 4x + 5x = 180$$

$$12x = 180$$

$$x = \frac{180}{12} = 15$$

$$x = 15$$

$$1^{\text{st}} \text{ Angle of } \Delta = 3(15) = \boxed{45^\circ}$$

$$2^{\text{nd}} \text{ angle of triangle} = 4(15) = \boxed{60^\circ}$$

$$3^{\text{rd}} \text{ angle of } \Delta = 5(15) = \boxed{75^\circ}$$

Hence, the angles of triangle are 45° , 60° , 75° .

c - In a sports meet, - - -

Sol: Each group in sports meet comprises = 4 boys
= 6 girls

Total number of girls available for groups = 102 girls

Total Number of boys = ?

If each group consists of 6 girls with total girls 102 then = $\frac{102}{6}$

Number of groups = $\boxed{17}$ groups
Now, if there are 17 groups and each group contains 4 boys, then number of boys required = 17×4
= $\boxed{68}$ boys.
~~Therefore~~ \therefore 68 boys are required against 102 girls.

d.

The ratio of present ages ---

Sol: Let the present ages of A and B be $6x$ and $7x$ respectively.

After 5-years the ratio would become 7:8 as represented:

$$6x+5 : 7x+5 = 7:8$$

$$\frac{6x+5}{7x+5} = \frac{7}{8}$$

According to given condition

$$(6x+5)8 = 7(7x+5)$$

$$48x+40 = 49x+35$$

$$48x-49x = 35-40$$

$$-x = -5$$

$$x = 5$$

So, the present age of A = $6x = 6(5) = 30$ years
present age of B = $7x = 7(5) = 35$ years.

Q. No. 7

a. In the given fig ---

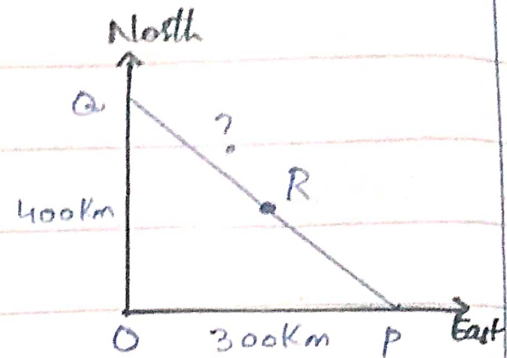
Sol:-

According to the figure;

Distance between P and O = 300 Km

Distance between O and Q = 400 Km

Distance between Q and R = ?



According to Pythagoras theorem

$$(\text{Hypotenuse})^2 = (\text{Base})^2 + (\text{Perpendicular})^2$$

$$h^2 = B^2 + P^2$$

$$(PQ)^2 = (OP)^2 + (OQ)^2$$

$$(PQ)^2 = (300)^2 + (400)^2$$

$$PQ^2 = 90,000 + 160,000$$

$$PQ^2 = 250,000$$

∴ Taking $\sqrt{\quad}$ on both sides

$$\sqrt{PQ^2} = \sqrt{250,000}$$

$$PQ = 50,000 \text{ Km}$$

Now, in order to find the distance between Q and R, divide PQ with 2

$$QR = \frac{50,000}{2}$$

$$QR = 250 \text{ Km}$$

Hence the distance between Q and R is 250 Km.

b.

Find the angles ---

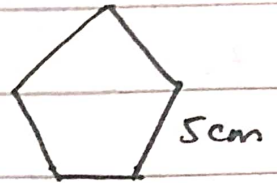
Sol:

PENTAGON is a geometrical figure with 5 sides and 5 angles arranged in regular polygon.

According to the statement

Each side of Pentagon = 5cm

Angles of perimeter of pentagon = ?



Pentagon

As all sides and angles of pentagon are equal so perimeter of single side is equal to each side.

$$\text{Perimeter of Pentagon} = 5a$$

$$= 5 \times \text{side length}$$

$$= 5 \times 5$$

$$\therefore \text{Angle of perimeter of } \begin{matrix} \text{pentagon} \\ \text{regular} \end{matrix} = \boxed{25\text{cm}}$$

c- How IQ ---

Sol: Mental age of a person = 11 years

Person's actual age = 9 years

IQ = ?

$$\text{IQ} = \frac{\text{Mental age} \times 100}{\text{Actual age}}$$

$$= \frac{11}{9} \times 100$$

$$IQ = \boxed{122.2}$$

d-

The average ---

Sol.:

Average age of boys = 15 years

Let the boys be A, B, C = $3x, 5x, 7x$

Age of the youngest boy = ?

In order to find the age of youngest boy apply average formula:

$$\text{Average} = \frac{\text{Sum of all observations}}{\text{No. of observations}}$$

$$15 = \frac{3x + 5x + 7x}{3}$$

$$15 = \frac{15x}{3}$$

$$\frac{15 \times 3}{15} = x$$

$$\boxed{x = 3}$$

$$\text{Age of youngest boy} = 3x = 3(3) = \boxed{9 \text{ years}}$$

SECTION-I

Q.No.3

d.

Distinguish between RAM and ROM of computers.

RAM

ROM

1. A form of data storage that can be accessed at any time, in any order or form and from any physical location.	A form of data storage that cannot be easily altered or reprogrammed.
2. RAM stands for Random Access Memory .	ROM stands for Read Only Memory .
3. It is a volatile memory.	It is a non-volatile memory.
4. It is a read ^{write} only memory.	It is a read-only memory.
5. It is faster.	It is slower.
6. It is used in the normal operations of a computer.	It is used primarily in the startup process of computers.

Q.No.4

c.

What is Myopia and Hyper—

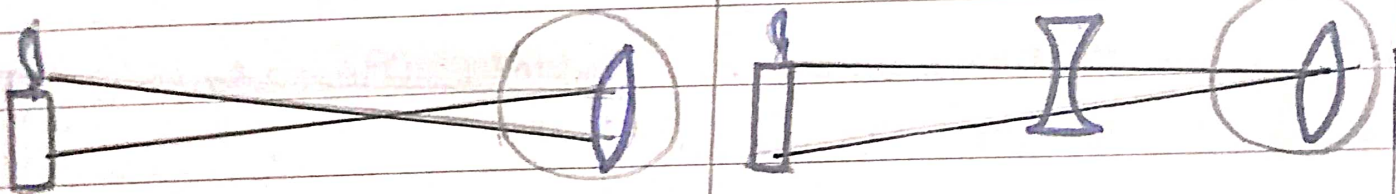
DISEASES OF EYE:

Human eye is a sensory organ. It is responsible for vision. However, an issue in eye-sight leads to eye diseases such as myopia and hypermetropia.

a- Myopia:

The elongation of eye-ball is called Myopia. It is the condition in which image of objects is formed in front of retina. **Concave lens** is used to rectify myopia.

Correction



b- Hypermetropia:

It is the condition in which eye-ball shortens than the original. Image of distant objects is formed behind retina. It can be corrected through **convex lens**.

Correction

