

SECTION - II

Q.4 (a) Sum of 3 consecutive prime numbers is 159, Find the numbers.

The numbers are : 47, 53 and 59

$$\text{Check : } 47 + 53 + 59 = 159$$

(b) The perimeter of a circle having radius 6 cm is equal to?

$$\text{Radius} = 6 \text{ cm}$$

$$\text{Perimeter} = 2\pi r$$

$$= 2 \times 3.14 \times 6$$

$$= 37.68 \text{ cm}$$

(c) Find Present age of a man...

$$\text{let age of man} = x$$

$$\text{age of wife} = y$$

$$\text{age of child} = z$$

3 years ago their average age was 27

$$\frac{(x-3) + (y-3) + (z-3)}{3} = 27 \quad \text{--- (1)}$$

5 years ago average age of wife and child was 20 years

$$\frac{(y-5) + (z-5)}{2} = 20$$

$$y-5 + z-5 = 20 \times 2$$

$$\boxed{y + z = 50}$$

Now Solving eq (1)

$$x-3 + y-3 + z-3 = 27 \times 3$$

$$x + y + z = 81 + 9$$

Putting value of $y + z = 50$

$$x + 50 = 90$$

$$x = 90 - 50$$

$$x = 40$$

So, age of man is 40 year now

(d) The sum of 3 numbers is 98
if ratio of first to second is 2:3
and second to third is 5:8, then
the second number is?

Sol: let the numbers are

x , y and z

According to Condition

$$x + y + z = 98 \quad \text{--- (1)}$$

$$\frac{x}{y} = \frac{2}{3} \Rightarrow x = \frac{2y}{3}$$

$$\frac{y}{z} = \frac{5}{8} \Rightarrow z = \frac{8y}{5}$$

Putting values of x and z in
eq (1)

$$\frac{2y}{3} + y + \frac{8y}{5} = 98$$

$$\frac{10y + 15y + 24y}{15} = 98$$

$$49y = 98 \times 15$$

$$y = \frac{1470}{49} = 30$$

$$y = 30$$

So, the second number is 30

Q7-(a) The sum of two numbers is 23 and product is 132. Find numbers

Sol:- let x and y are the numbers

According to Condition

$$x + y = 23 \quad - (1)$$

$$xy = 132 \quad - (2)$$

From eq - (1)

$$x + y = 23$$

$$[x = 23 - y] \text{ — putting in eq (2)}$$

$$(23 - y)y = 132$$

$$23y - y^2 = 132$$

$$y^2 - 23y + 132 = 0$$

$$y^2 - 11y - 12y + 132 = 0$$

$$y(y - 11) - 12(y - 11) = 0$$

$$(y - 11) = 0$$

$$(y - 12) = 0$$

$$y = 11$$

$$y = 12$$

put $y = 11$ in eq (1)

$$x + 11 = 23$$

$$x = 23 - 11$$

$$x = 12$$

So the numbers are 11 and 12

(b) 40% of a number is more than 20% of 650 by 190

let x be the number

$$0.4 \times x = 0.2 \times 650 + 190$$

~~$0.4x$~~ = Multiply by 10 b/s

$$4x = 2 \times 650 + 1900$$

$$4x = 1300 + 1900$$

$$4x = 1490 + 3200$$

$$x = \frac{1490 + 3200}{4} = \frac{4690}{4} = 1172.5$$

$$x = 1172.5$$

(c) A man buys a Car for Rs 70 million after getting discount of 20%. What was the marked price?

let marked price = x

According to Condition:

$$x - 20\% = 70 \text{ million}$$

$$x - \frac{20}{100} = 70 \text{ million}$$

$$\frac{100x - 20}{100} = 70 \text{ million}$$

$$100x - 20 = 7000 \text{ million}$$

$$100x = 7020 \text{ million}$$

$$x = \frac{7020}{100} \text{ million}$$

$$x = 70.2 \text{ million PKR}$$

MTWTFSS

Date: _____

(d) A number is increased by 10% then decrease by 10%. The net change in the number is?

let number is 100

$$10\% \text{ increase} = 100 + \frac{10}{100} \times 100$$

$$10\% \text{ increase} = 110$$

Now 10% decrease of 110

$$= 110 - \frac{10}{100} \times 110$$

After 10% decrease = 99

So net change is 1%