

Mock. 2.

General Sciences.

Q5-

Set = 11

- a.) student of 8 yrs: 48
student above 8 yrs: $\frac{2}{3} \times 48 = 32$
student below 8 yrs: 20% of Total = $0.2 \times \text{Total}$
let x be total

$$x = 48(\text{age } 8) + 32(\text{above } 8) + 0.2x(\text{below } 8) - x \cdot 0.2x$$
$$800.8x = 80x$$
$$x = 100 \text{ students}$$

- b.) Father = $3 \times$ Rashid age.
After 8 yrs = $2.5 \times$ Rashid age

Rashid age = x .

Father = $3x$.

After 8 yrs.

Rashid = $x + 8$

father = $3x + 8$

$$3x + 8 = 2.5(x + 8)$$

$$3x = 2.5(x + 8) - 8$$

$$0.5x = 12$$

$$x = 24$$

$$\text{father} = 3x = 3(24) = 72.$$

$$\text{Rashid} = 24 + 8 = 40$$

$$\text{father} = 72 + 16 = 88$$

$$\text{ratio} = 88:40$$

$$= 11:5$$

c)

2 dice rolled $= 6 \times 6 = 36$

Prime total possible $= 2, 3, 5, 7, 11$

Possible outcomes

$$2 \rightarrow (1,1) = 1$$

$$3 \rightarrow (1,2) (2,1) = 2$$

$$5 \rightarrow (1,4) (4,1) (2,3) (3,2) \rightarrow 4$$

$$7 \rightarrow (1,6) (6,1) (2,5) (5,2) (3,4) (4,3) \rightarrow 6$$

$$11 \rightarrow (5,6) (6,5) \rightarrow 2$$

$$\text{Total favourable outcome} = 1 + 2 + 4 + 6 + 2$$

$$= 15$$

$$\text{Answer probability} = \frac{15}{36} = \frac{5}{12}$$

d.)

$$\text{captain} = 26 \quad \text{wicket keeper} = 26 + 3 = 29$$

remaining 9 players have avg 1 yr less than whole team

let team age $= x$

$$\text{Total} = 11x$$

$$9 \text{ remaining} = x - 1 \quad \text{total } 9(x - 1)$$

$$11x = 9(x - 1) + 26 + 29$$

$$11x - 9x = 46$$

$$x = 23 \text{ yrs is age of}$$

remaining 9 players.

Q6.

a) selling price = double
profit = triple
profit in %

$$C.P. = 100$$

$$S.P. = x$$

$$S.P. = 2x$$

$$\rightarrow \text{Profit} = x - 100$$

$$\text{New profit} = 2x - 100$$

$$2x - 100 = 3(x - 100)$$

$$2x - 100 = 3x - 300$$

$$\begin{array}{l} 200 = x \\ C.P. = 100 \quad S.P. = 200 \quad \text{profit} = 100 \\ \text{Profit \%} = \left(\frac{100}{100} \right) \times 100 = 100\% \end{array}$$

b) Total = 550 per week
 $x = 120$ per of sum paid $y. = 120\%$ of x

$$\text{let } y = x$$

$$x = 1.2x$$

$$x + 1.2x = 550$$

$$x = 250$$

c) Perimeter : breadth
5 : 1
Area = 216 sq cm
Length = ?

let breadth = x Perimeter = $5x$.

$$2(l+x) = 5x$$

$$2(l+x) = 5x$$

$$l+x = 5x/2$$

$$\rightarrow l = 5x/2 - x$$

$$l = 3x/2$$

$lx = 216$ area give

$$(3x/2)x = 216$$

$$x = 12$$

$$l = 3x/2 = 3(12)/2 = 18$$

$$l = 18 \text{ cm}$$

d.)

Ticket 1-20.

Probability 3 & 5

3 multip = 3, 6, 9, 12, 15, 18. = 6

" = 5, 10, 15, 20 = 4

common (3 & 5) = 15 = 1

Total favours = 6 + 4 - 1 = 9

Total outcome = 20

$$\text{Probability} = 9/20$$

Sect - 1

Q2.

a.) Benefits:

- Fast and accurate diagnosis
- Improved patient care via monitoring system
- Personalized treatment plan
- Reduce human error.
- Automates administrative tasks (Scheduling data entry)

Challenges:

- May lose data (Data Privacy.)
- Require quality data set
- High cost
- Ethical concern in decision making
- Skilled staff

Impact:-

It will diagnose more better and will give in depth details (diagnose earlier) provide virtual health assistant and enables prediction health care

d.) Disaster Management
key points

- Risk Assessment
- Preparedness

• Response • Recovery • Mitigation

Importance of Phase:

Preparedness: early warning (alarms), drills

Response: Immediate action (rescue, relief)

Recovery: Re building infrastructure.

Mitigation: Reduce future risk

Example:

Japan earthquake drills, Pakistan NDMA
fire flood.