Date: _____ **General Ability** Day: _____

**Name : Fajar Fiaz**

## Question no.01

a) Given data:

Sum of three consecutive no = 97

Required =

find the numbers = ?

Solution:

Let the numbers be : $x+2, x+3, x+5$

$x+2+x+3+x+5 = 97$

$3x+10 = 97$

$3x = 97-10$

$\frac{3x}{3} = \frac{87}{3}$ 29

$x = 29$

The numbers will be:

$x+2 = 29+2 = 31$

$x+3 = 29+3 = 32$

$x+5 = 29+5 = 34$

Verifying the solution:

$31+32+34 = 97$

Hence, the answer is correct.

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b) Given Data:

Father of my uncle = Grandfather

Daughter of his = Aunt

Son of the aunt = Cousin

Solution:

Hence, the boy is the cousin of the girl.

5

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no = 97

c) Given data:

Two dice are thrown simultaneously

2, x+3, x+5

Required:

Getting two numbers whose product is even.

Solution:

Probability of any number on dice.

$6^2 = 36$

Numbers whose product is even: 26

Probability $= \frac{26}{36} = \frac{13}{18}$

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d) Given data:

Average visitors on Sunday = 510

Average visitors on other days = 240

Required:

No. of visitors per day in a month of

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30 days beginning with a Sunday = ?

Solution:

Total no. of Sundays = 5

Other days = 25

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

For Sundays,

$510 = \frac{\text{Sum of values}}{5}$

$= 510 \times 5 = 2550$

For other days,

$240 = \frac{\text{Sum of values}}{25}$

$= 240 \times 25 = 6000$

Total no. of visitors = 6000 + 2550

= 8550

Total average = $\frac{\text{sum of values}}{\text{no. of values}}$

Average = $\frac{8550}{30}$

= 285

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# Question no. 02

**a)** Given data:

Loan (Principal amount) = 1200

Rate of interest = no. of years = R = T

$= r \times r = r^2$

Interest paid = 432

Required = Rate of interest = ?

Solution:

$$\text{Simple Interest (S.I)} = \frac{P \times R \times T}{100}$$

$$432 = \frac{1200 \times r^2}{100}$$

$$\frac{432 \times 100}{1200} = r^2$$

$$36 = r^2$$

$$\sqrt{36} = \sqrt{r^2}$$

$$r = 6 \quad \text{(Rate = 6\%)}$$

Hence, the rate of interest and years are 6.

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**b)** Given data:

Selling price = $SP_1 = 1920$

$= SP_2 = 1280$

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Percentage profit = Percentage loss.

Required:

Price at which article be sold to make 25% profit = ?

Solution:

$$\text{Percentage Profit} = \frac{\text{Sale} - \text{Cost}}{\text{Cost}} \times 100 \quad \text{(i)}$$

$$\text{Percentage loss} = \frac{\text{Cost} - \text{Sale}}{\text{Cost}} \times 100 \quad \text{(ii)}$$

Comparing both equations:

$$\frac{\text{Sale} - \text{Cost}}{\text{Cost}} \times 100 = \frac{\text{Cost} - \text{Sale}}{\text{Cost}} \times 100$$

$$\frac{1920 - \text{cost}}{\text{Cost}} \times 100 = \frac{\text{Cost} - 1280}{\text{Cost}} \times 100$$

$$(1920 - \text{Cost}) \times \frac{100}{\text{Cost}} = (\text{Cost} - 1280) \times \frac{100}{\text{Cost}}$$

$$1920 - \text{Cost} = \text{Cost} - 1280$$

$$1920 + 1280 = \text{Cost} + \text{Cost}$$

$$3200 = 2\text{Cost}$$

$$\frac{3200}{2} = \frac{2\text{Cost}}{2}$$

$$\text{Cost} = 1600$$

For 25% profit, $\text{Profit \%} = \left(\frac{\text{Sale} - \text{Cost}}{\text{Cost}}\right) 100$

$$25 = \frac{S - 1600}{1600} \times 100$$

$$\frac{25 \times 1600}{100} = S - 1600$$

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$400 = S - 1600$

$400 + 1600 = Sale$

$Sale = 2000$

Hence, the article be sold at sale price 2000.

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c) Given data,

Present age of a person $(x) = \frac{2}{5}$ of mother $(y)$

$$x = \frac{2}{5}y \quad (i)$$

After 8 years, $x = \frac{1}{2}y$ i.e.

$$x + 8 = \frac{1}{2}(y + 8) \quad (ii)$$

Putting the value of $x$ from eq(i) into(ii)

$$\frac{2}{5}y + 8 = \frac{1}{2}(y + 8)$$

$\frac{2}{5}y - \frac{1}{2}y = 8 - 8$ Multiplying both sides by '10'; LCM of 2, 5:

$\frac{4y - 5y}{10} = 0$ $\quad 10 \times \frac{2}{5}y + 8 \times 10 = 10 \times \frac{1}{2}(y + 8)$

$4y + 80 = 5y + 40$

$80 - 40 = 5y - 4y \Rightarrow y = 40$

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Hence, the present age of mother is 40.

d) Given data,

Profit-share of three = 5 : 7 : 8

Partenered for = 14, 8, 7 months

Required, Ratio of investments = ?

Solution, A : B : C

5 : 7 : 8

Dividing by no. of months,

$\frac{5}{14} : \frac{7}{8} : \frac{8}{7}$

Taking LCM of 14 - 8 - 7 which is, 56

Multiplying all by 56:

$\frac{56 \times 5}{14} : \frac{56 \times 7}{8} : \frac{56 \times 8}{7}$

20 : 49 : 64

Hence, the ratio of their investments is 20 : 49 : 64.

| | |
|---|---|
| 7 | 14 - 8 - 7 |
| 2 | 2 - 8 - 1 |
| 2 | 1 - 4 - 1 |
| 2 | 1 - 2 - 1 |
| | 1 - 1 - 1 |

14
4
56