

Saba Zafar

NOA GK-I (Test-3)

Q#1

(A)

Data;

Sum of 3 consecutive prime numbers = 97

Let x is the number

$$x + x + 1 + x + 2 = 97$$

$$3x + 3 = 97$$

$$3x = 97 - 3$$

$$x = 94/3$$

$$x = 31.33$$

$$x + 6 = 37.33$$

$$x + 10 = 41.33$$

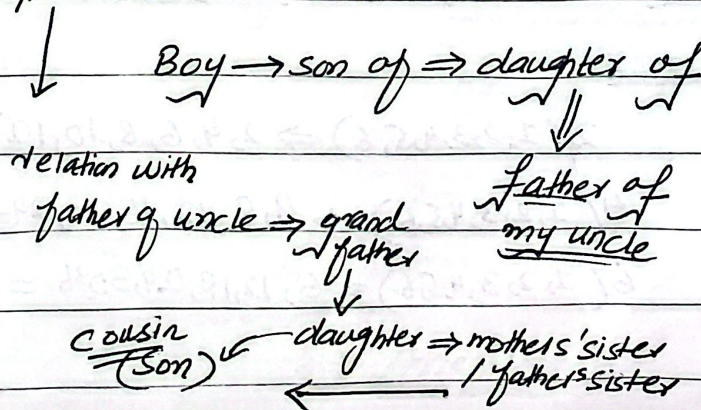
$$\begin{array}{r} 3 \overline{) 94} \\ 9 \\ \hline 4 \\ 3 \\ \hline 10 \\ 9 \\ \hline \end{array}$$

So, the numbers are

31.33, 37.33, 41.33 Ans

(B)

Girl said



Day: _____

Date: _____

⇒ Boy is girl's cousin. Ans

(C) Two dice are being thrown simultaneously
Probability of getting two
numbers whose product is even

(a) Total number of elements in the

$$\text{Sample} = 6 \times 6 = 36$$

(b) Elements demanded = ^{Product of} even numbers

Numbers on Dice 1

Dice 2

1, 2, 3, 4, 5, 6

1, 2, 3, 4, 5, 6

Probability of getting even number

2, 4, 6, 4, 6, 8, 10, 12, 6, 12, 18, 8, 12, 16, 20,
24, 10, 20, 30, 6, 12, 18, 24, 30, 36

$$= \frac{26}{36}$$

Odd numbers = 1, 3, 5 $\times$ 1, 2, 3, 4, 5, 6

even numbers = 2, 4, 6 $\times$ 1, 2, 3, 4, 5, 6

For odd

1(1, 2, 3, 4, 5, 6) $\Rightarrow$ 3 elements

3(1, 2, 3, 4, 5, 6) $\Rightarrow$ 6, 12, 18 = 3 elements

5(1, 2, 3, 4, 5, 6) $\Rightarrow$ 10, 20, 30 = 3 elements

For even

2(1, 2, 3, 4, 5, 6) $\Rightarrow$ 2, 4, 6, 8, 10, 12 = 6

4(1, 2, 3, 4, 5, 6) $\Rightarrow$ 4, 8, 12, 16, 20, 24 = 6

6(1, 2, 3, 4, 5, 6) $\Rightarrow$ 6, 12, 18, 24, 30, 36 = 6

Day: _____

Date: _____

$$P = \frac{\text{no. of elements in the sample}}{\text{T. number of elements demanded}}$$

$$= \frac{27}{36}$$

$$= \frac{3}{4}$$

$$\boxed{P = 3/4} \Rightarrow \underline{\text{Answer}}$$

(D) data;

average of visitors on sundays = 510

Other days' average = 240

Average of 30 days beginning with Sunday = ?

$$\text{sum on sundays} = 510 \times 5$$

$$= 2550$$

↓ visitors

sum on other

$$\text{days} = \frac{240 \times 25}{1}$$

$$= 6000 \Rightarrow \text{visitors}$$

$$\text{Average of 30 days} = \frac{\text{sum of all days' visitors}}{\text{Total number of days}}$$

$$= \frac{6000 + 2550}{30}$$

$$= 285$$

$$\boxed{\text{Average} = 285} \Rightarrow \underline{\text{Answer}}$$

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

(A)

Q#2

Data;

borrowed/ Principle amount = Rs. 1200

extra/ Interest paid = Rs. 432

Rate = ?

Formula; let rate = x , $\therefore x = \text{Time}$ Simple Interest = $\frac{\text{Principle} \times \text{Rate} \times \text{Time}}{\text{amount}}$

$$432 = 1200 \times \frac{x}{100} \times x$$

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

$$\begin{array}{r} 36 \\ 2 \overline{) 432} \\ \underline{432} \\ 0 \end{array} = x^2$$

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

$$x = 6\%$$

$$\boxed{\text{Rate} = 6\%}$$

(B)

Data;

% of profit = 1% incurred loss after selling for 1280

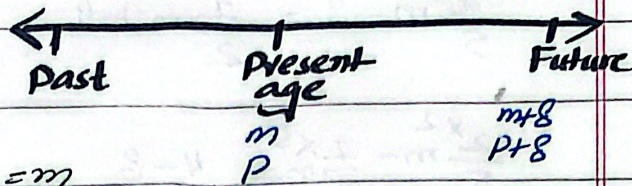
Selling price of an article = Rs. 1920

what should be the selling price to earn a profit of 25%?

Let ^{cost} selling price = x

$$\text{Profit} = \frac{x + 25}{100}$$

(C)

Let mother's age = m Person's age = P

At present;

$$\boxed{P = \frac{2m}{5}} \quad (i)$$

After 8 years;

$$P = P+8$$

$$m = m+8$$

$$P+8 = \frac{1}{2} (m+8)$$

$$\boxed{P+8 = \frac{1}{2} (m+8)}$$

$$\boxed{P+8 = \frac{1}{2} \times (m+8)} \quad (ii)$$

For finding (P) put $P = \frac{2m}{5}$ in eq(ii)

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

$$\frac{2}{5} m + 8 = \frac{1}{2} m + 4$$

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

$$\frac{2 \times 2}{5} m + \frac{1 \times 5}{2} m + 8 \times 10 = 8$$

$$\frac{4m - 5m + 80}{10} = 8$$

$$\frac{2}{5} m + 8 = \frac{1}{2} m + 4$$

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$$\frac{2}{5}m + 8 = \frac{1}{2}m + 4$$

$$\frac{2 \times 2}{5}m - \frac{1 \times 5}{2}m = 4 - 8$$

$$4m - 5m = 4 - 8$$

$$10 \div m = +4$$

$$m = 10 \times 4$$

$$m = 40 \text{ year old}$$

(D)

Partner 1: Partner 2: Partner 3

5 : 7 : 8

Profit $\propto I \times T_1 : I \times T_2 : I \times T_3$ Profit = $14I_1 : 8I_2 : 7I_3$ $5:7:8 = 14I_1 : 8I_2 : 7I_3$

$$I_1 : I_2 : I_3 = \frac{5 \times 4}{14} : \frac{8}{7} : \frac{8}{7}$$

$$I_1 : I_2 : I_3 = \frac{20}{J.C.M. 5/6/56}$$

 $I_1 : I_2 : I_3$

$$\frac{5}{14} \times \frac{4}{56} : \frac{7}{7} \times \frac{7}{56} : \frac{8}{7} \times \frac{8}{56}$$

$$\boxed{I_1 : I_2 : I_3} \\ \boxed{20 : 44 : 64} = \underline{\underline{\text{Ans}}}$$