Day: _____ Date: _____

Saba Zafar

NOA GK-I (Test-3)

Q#1

(A)

Data;

Sum of 3 consecutive prime numbers = 97

Let x is the number

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

$3x + 3 = 97$

$3x = 97 - 3$

$x = 94/3$

$x = 31.33$

$x + 6 = 37.33$

$x + 10 = 41.33$

So, the numbers are

31.33, 37.33, 41.33 Ans

$$3 \overline{)94} \quad 31.3$$
$$9$$
$$4$$
$$3$$
$$10$$
$$9$$

(B) Girl said

Boy → son of ⇒ daughter of

daughter of ⇒ father of my uncle

Relation with father of uncle ⇒ grand father

grand father ⇒ daughter ⇒ mother's sister / father's sister

mother's sister / father's sister ⇒ cousin (son)

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⇒ **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 Sample = 6 × 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 × 1, 2, 3, 4, 5, 6

even numbers = 2, 4, 6 × 1, 2, 3, 4, 5, 6

For odd

1 (1, 2, 3, 4, 5, 6) ⇒ 3 elements

3 (1, 2, 3, 4, 5, 6) ⇒ 6, 12, 18 = 3 elements

5 (1, 2, 3, 4, 5, 6) ⇒ 10, 20, 30 = 3 elements

For even

2 (1, 2, 3, 4, 5, 6) ⇒ 2, 4, 6, 8, 10, 12 = 6

4 (1, 2, 3, 4, 5, 6) ⇒ 4, 8, 12, 16, 20, 24 = 6

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

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

$= \frac{27 \div 3}{36 \div 4}$

$P = 3/4$ → Answer

(D) data;

average of visitors on sundays = 510

Other days' average = 240

Average of 30 days beginning with sunday = ?

S	M	T	W	Th	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					

Sum on sundays = 510×5

$= 2550$ ↓ visitors

Sum on other days = 240×25

1200

$480\times$

$= 6000$ → visitors

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

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

$= \frac{8550}{30} = 285$

Average = 285 → Answer

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Q#2

(A)

Data;

borrowed / Principle amount = Rs. 1200

extra / Interest paid = Rs. 432

Rate = ?

Formula; let rate = x, $\therefore x$ = Time

Simple Interest = Principle amount × Rate × Time

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

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

$$\frac{432}{12} = x^2$$

$$36 = x^2$$

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

$$x = 6\%$$

Rate = 6%

(B) Data;

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

Selling price of an article = Rs. 1980

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

Let Cost selling price = x

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

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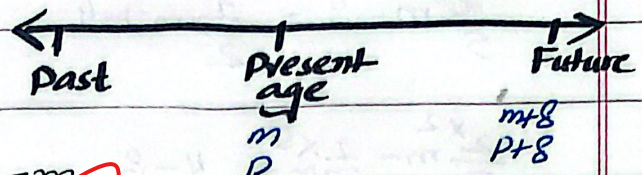
(c)



Let mother's age = m

Person's age = P

At present;

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

After 8 years; $P = P+8$, $m = m+8$

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

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

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

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

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

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

$$\frac{2\times2}{5}m + \frac{1\times5}{2}m + 8\times10 = 8$$

$$4m - 5m + 80 = 8$$

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

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

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

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

$-m = -4$

$m = 10 \times 4$

m = 40 year old

(D)

Partner 1	Partner 2	Partner 3
5	7	8

Profit = $I \times T_1 : I \times T_2 : I \times T_3$

Profit = $14I_1 : 8I_2 : 7I_3$

$5 : 7 : 8 = 14I_1 : 8I_2 : 7I_3$

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

$I_1 : I_2 : I_3 = \frac{20}{\text{L.C.M } 56}$

$I_1 : I_2 : I_3$

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

$I_1 : I_2 : I_3$

$20 : 49 : 64$ = Ans