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General abilities
Test #3

QNo:1

(a) Given that,

Sum of three consecutive
prime numbers = 97

To Find ,

Find the numbers = ?

Solution,

Let the three consecutive prime
numbers are: $(x+2)$, $(x+3)$, $(x+5)$

According to the given statement,

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

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

$$3x + 10 = 97$$

$$3x = 97 - 10$$

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

$$x = 29$$

Answer,

Three consecutive prime numbers are,

$$x+2 = 29+2 = \mathbf{31}$$

$$x+3 = 29+3 = \mathbf{32}$$

$$x+5 = 29+5 = \mathbf{34}$$

(B) How is boy related to girl?

Given;

uncle $\rightarrow$ father $\rightarrow$ daughter $\rightarrow$ son

The boy is second cousin to the girl.

(C) Probability of getting of
two number with even products;

No. of dice = 2

No. of sides per dice = 6

no. of even sides per dice = 3
 $= 3 \times 2$

Probability of getting two numbers
with even products are = 2^6
 $= 64$.

(D) The average number of visitors
per day = ?

Given;

Average visitors on Sunday = 510

Average visitors on other days = 240

To Find;

Average visitors per day in a month = ?

Solution;

Average visitors = $\frac{510 + 240}{30} = 25$
per day

QNo: 3

Given,

(A)

Work done by A = 15 days

Work done by B = 20 days

Work done together = 4 days

To Find;

Fraction of work left = ?

Solution;

$$\frac{1}{x} = \frac{1}{A} + \frac{1}{B} = \frac{1}{15} + \frac{1}{20}$$

$$\frac{1}{x} = \frac{7}{60}$$

$$x = \frac{60}{7}$$

$$x = 56$$

$$\text{work left} = \frac{1}{x} = \frac{56}{4} = 14 \text{ days.}$$

(D) Find the number:

(1) 2, 3, 6, 4, 5, 20, _____, 3, 18

The missing number is 6 because,

$$2 \times 3 = 6 \Rightarrow 2, 3, 6$$

$$4 \times 5 = 20 \Rightarrow 2, 3, 6, 4, 5, 20$$

$$6 \times 3 = 18 \Rightarrow 2, 3, 6, 4, 5, 20, 6, 3, 18$$

2. 1, 3, 9, 15, 25, —, 49

1, 3, 9, 15, 25, 35, 49
 $\underbrace{1 \times 3}_{3 \times 3} \quad \underbrace{3 \times 5}_{5 \times 5} \quad \underbrace{5 \times 7}_{7 \times 7}$

3. 2, 7, 10, 22, 18, 37, 26, —

2, 7, 10, 22, 18, 37, 26, 33

The pairing logic

(2, 7), (10, 22), (18, 37), (26, 33)

6 gap 6 gap 6 gap 6 gap

4. 34, 7, 37, 14, 40, 28, 43, —

Multiplication and subtraction logic

$\overset{-3}{34}, 7, 37, 14, 40, 28, 43, 56$
 $\underbrace{\quad \quad \quad}_{\times 2} \quad \underbrace{\quad \quad \quad}_{\times 2} \quad \underbrace{\quad \quad \quad}_{\times 2}$

5. 5, 7, 11, —, 17, 19

5, 7, 11, 13, 17, 19

The logic of consecutive prime numbers.