

QUESTION NO.1

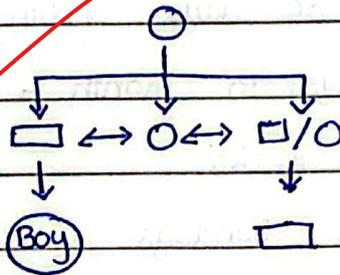
(PART NO. A)

Three consecutive prime numbers are 37, 39 and 41.

$$37 + 39 + 41 = 97$$

$$39 = 3 \times 13$$

(PART NO. B)



Boy is cousin of that girl.

(PART NO. C)

Two dice =  $6 \times 6 = 36$

Possible number of even sum = 12

1+3, 2+4, 3+1, 4+2, 5+1, 6+2

1+5, 2+6, 3+5, 4+6, 5+3, 6+4

$$\text{Probability} = \frac{12}{36} = 0.333$$

$$= 0.333 \times 100$$

$$\text{Probability} = 33.3\%$$

Product = Even

33.3% is the probability of getting two numbers whose product is even.

### (PART NO.0)

Average visitors on Sunday = 510

Average visitors on other days = 240

Average visitors per day = ?

Month of 30 days starting with Sunday

Total Sundays in month = 5

Other days = 25

Visitors on Sundays =  $510 \times 5 = 2550$

Visitors on other days =  $240 \times 25 = 6000$

Total visitors in that month = 8550

Visitors per day =  $\frac{8550}{30}$

Average visitors/day = 285

### QUESTION NO.3

#### (PART NO.A)

A takes 15 days to complete a work.

B takes 20 days.

Lets assume ;

A folds 100 packets in 15 days.

B does the same job in 20 days.

A, B folds how many packets in a day:

$$A = \frac{100}{15} = 6.66 \text{ packets}$$

$$B = \frac{100}{20} = 5 \text{ packets.}$$

If A and B have to fold 100 packets together; they will fold in 4 days

$$A = 4 \times 6.66 = 26.64 \text{ packets}$$

$$B = 4 \times 5 = 20 \text{ packets.}$$

So,

$$A \text{ and } B \text{ folded} = 46.64 \text{ packets.}$$

Hence, 54.46% of work is still remaining.

(PART NO. D)

1) 2, 3, 6, 4, 5, 20, 6, 3, 18 ✓

2) 1, 3, 9, 15, 25, 39, 49 ✗

3) 2, 7, 10, 22, 18, 37, 26, 52 ✓

4) 34, 7, 37, 14, 40, 28, 43, 56 ✓

5) 5, 7, 11, 13, 17, 19 ✓

(PART NO. B)

let  $x$

$$\frac{3x-9}{5x-9} = \frac{12}{23}$$

$$23(3x-9) = 12(5x-9)$$

$$69x - 207 = 60x - 108$$

$$9x = 99$$

$$x = 11$$

Now,  $5x = 5 \times 11 = 55$

$$3x = 3 \times 11 = 33$$

Smaller number = 33

Date

(PART NO. C)

$$\begin{aligned}\text{Average } A, B, C &= 45 \text{ kg} \\ &= 45 \text{ kg} \times 3 \\ &= 135 \text{ kg}\end{aligned}$$

$$\begin{aligned}A \text{ and } B &= 40 \text{ kg} \\ &= 40 \text{ kg} \times 2 \\ &= 80 \text{ kg}\end{aligned}$$

$$\begin{aligned}B \text{ and } C &= 43 \text{ kg} \\ &= 43 \text{ kg} \times 2 \\ &= 86 \text{ kg}\end{aligned}$$

$$\begin{aligned}(A+B) + (B+C) &= 80 + 86 \\ (A+2B+C) &= 166 \text{ kg}\end{aligned}$$

$$A+B+C = 135 \text{ kg}$$

$$(A+2B+C) - (A+B+C) = (166 - 135) \text{ kg}$$

$$\text{weight of } B = 31 \text{ kg}$$