Section II

Q# 6

(a)

i) 10, 100, 200, 310 ___?

Sol: 10, 100, 200, 310, (420) 430

$$-90 \quad -100 \quad -110 \quad -120$$

Ans

ii) 3, 7, 23, 95 ___?

Sol: 3, 7, 23, 95, 479

$$\times 3+2 \quad \times 4+3 \quad \times 5+4$$

Ans

Expalin reasoning

(b)

The perimeter of a rectangular is given below and area of rectangle.

$(2x - 3)$ cm

$(2x + y)$ cm
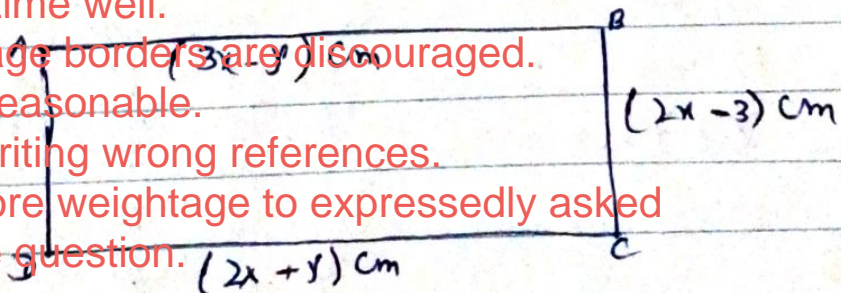
Perimeter = 114 cm

$|AB| = |DC|$

$3x - y = 2x + y$

$3x - 2x = y + y$

$$\boxed{x = 2y} \quad \longrightarrow (1)$$

Perimeter $= |AB| + |BC| + |CD| + |DA|$
$= 3x - y + 2x - 3 + 2x + y + 2x - 3$

$114 = 9x - 6$

$9x = 114 + 6$

$x = \dfrac{1120}{9}$

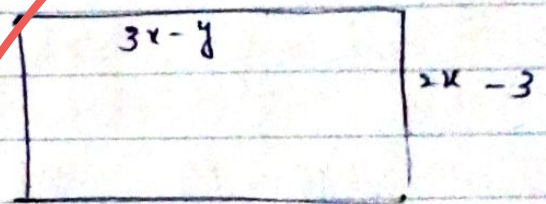$\boxed{x = 13.33}$

(i) $x = 2y$

$y = \dfrac{x}{2}$

$y = \dfrac{13.33}{2}$

$\boxed{y = 6.66}$

$\Rightarrow 3x - y$
$= 3(13.33) - 6.66$
$= 39.99 - 6.66$
$= 33.33$ cm

$\Rightarrow 2x - 3$
$2(13.33) - 3$
$26.66 - 3$
23.66 Cm

∴ Area $= L \times W$
$= 33.33$ cm $\times 23.66$ cm
$= 788.58$ cm^2

Ans

(c)

Data

1- Nisha is 15 year older than Romi

$$N = R + 15 \quad\text{------ (1)}$$

2- Five year ago, Nisha was 3 time as old as Romi

$$N - 5 = 3(R - 5) \quad\text{------ (2)}$$

Solve

Substitute the first equation into 2nd eq.

$$R + 15 - 5 = 3(R - 5)$$

$$R + 10 = 3(R - 5)$$

$$R + 10 = 3R - 15$$

$$10 + 15 = 3R - R$$

$$25 = 2R$$

$$R = \frac{25}{2}$$

$$R = 12.5 \quad (\text{age of Romi})$$

$$N = R + 15$$

$$N = 12.5 + 15 = 27.5 \quad (\text{Nisha's present age})$$

Years

(d)

Solve Oranges = 210
Apples = 252
294 = pears
No of cartons = ?

Prime factorization of each number

$$210 = 2 \times 3 \times 5 \times 7$$
$$252 = 2 \times 2 \times 3 \times 3 \times 7$$
$$294 = 2 \times 3 \times 7 \times 7$$

Common factor

2 (appears in all three numbers)
3 (appears in all 3)
7 (appears in all 3)

Now, find the product of these
common prime factors

$$2 \times 3 \times 7 = 42$$

So, the biggest possible number of cartons
needed is 42.

2	210
3	105
7	35
5	5

2	252
2	126
3	63
3	21
7	7

2	294
3	147
7	49
7	7

Q# 7(a)

price raised = 20%
price on the tag = 80 rupees
Original price of the shirt = ?

Solution

$$\text{Original price} = \frac{\cancel{80}^{16} \times \cancel{20}}{\cancel{100}_{5}}$$

Original price of the shirt = 16 rupees _Ans_

(b)

Code for SISTER = ?
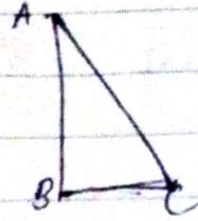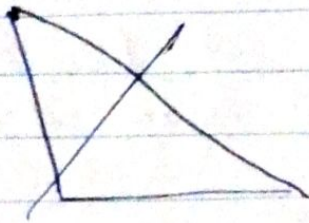Code for BROTHER = QD G S N QD

S I S T E R
Q G Q S Q D

A B C D E
F G H I J
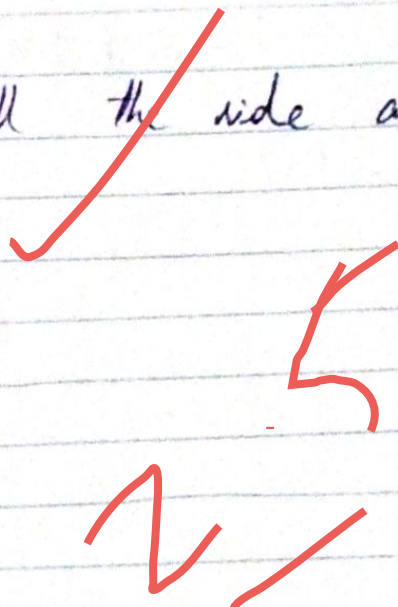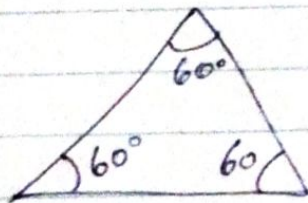K L M N O
P Q R S T
U V W X Y
Z

(C)

i) Scalene triangle.

   A triangle having all the sides and angles unequal.

ii) Equilateral triangle.

   A triangle having all the side are equal ($\theta = 60°$)

iii) Isosceles triangle.

   A triangle having 2 sides and angles are equal.

Sone of all angles ($\theta = 180°$)

Right angle isosceles?

d)

3 Slices contain rasin
Total slices = 8
Probability pick a slice with rasin = ?

Probability = $\dfrac{\text{Number of favourable outcomes}}{\text{Total number of possible outcomes}}$

$= \dfrac{3}{8}$

$= 0.37$ Ans

$$\begin{array}{r} 0.37 \\ 8\overline{)3\,0} \\ 2\,4 \\ \hline \cdot 6\,0 \\ 5\,6 \\ \hline \cdot 4 \end{array}$$