

Section II

Q.6

(a)

i) 10, 100, 200, 310 ?

Solve

10, 100, 200, 310, 420 ⁴³⁰ Ans

-90 -100 -110 -120

17

General Instructions

1. Give numbering to headings
2. Do not write lengthy paragraphs. Write medium sized paragraphs with headings.
3. Do not use table for comparison and contrast questions.

Solve

3, 7, 23, 95, ?

x3+2 x4+3 x5+4

Ans

15

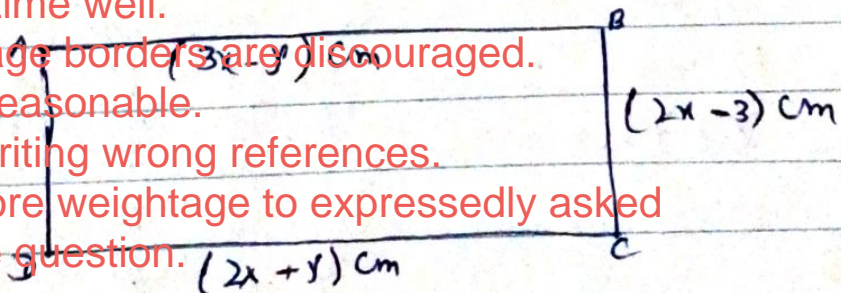
4. Draw figures/diagram/flowchart where needed.
5. Start new question from fresh page.
6. Write unit of the answer in ability section.

Explain reasoning

(b)

7. Explain mathematical steps and the reasoning for better score.
8. Change colour scheme for references to give them more visibility.
9. Manage time well.
10. Wide page borders are discouraged. Should be reasonable.
11. Avoid writing wrong references.
12. Give more weightage to expressedly asked part/s of the question.

The perimeter of a rectangle is given below. Find the area of rectangle.



Perimeter = 114 cm

$|AB| = |DC|$

$3x - y = 2x + y$

$3x - 2x = y + y$

$x = 2y$ (1)

$$\text{Perimeter} = |AB| + |BC| + |CD| + |DA|$$

$$= 3x - y + 2x - 3 + 2x + y + 2x + 3$$

$$114 = 9x - 6$$

$$9x = 114 + 6$$

$$x = \frac{120}{9}$$

$$x = 13.33$$

$$(i) x = 2y$$

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

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

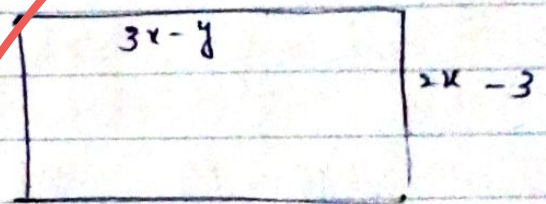
$$y = 6.66$$

$$\Rightarrow 3x - y$$

$$= 3(13.33) - 6.66$$

$$= 39.99 - 6.66$$

$$= 33.33 \text{ cm}$$



$$\Rightarrow 2x - 3$$

$$2(13.33) - 3$$

$$26.66 - 3$$

$$23.66 \text{ cm}$$

$$\therefore \text{Area} = L \times W$$

$$= 33.33 \text{ cm} \times 23.66 \text{ cm}$$

$$= 788.58 \text{ cm}^2$$

Ans

(C)

Let

1- Nisha is 15 years older than Romi

$$N = R + 15 \text{ ————— (1)}$$

2- Five years ago, Nisha was 3 times as old as Romi

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

Sub

Substitute the first equation into 2nd eqn

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

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

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

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

$$25 = 2R$$

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

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

$$N = R + 15$$

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

Years

Ans

(d)

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

Prime factorization of each number

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

$$252 = 2 \times 2 \times 3 \times 3 \times 7$$

$$294 = 2 \times 3 \times 7 \times 7$$

2	210
3	105
7	35
5	7

Common factor

2 (appears in all three numbers)

3 (appears in all 3)

7 (appears in all 3)

2	252
2	126
3	63
3	21
7	7

Now, find the product of these
Common prime factors

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

2	294
3	147
7	49
7	7

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

Ans

Q. 7(a)

price saved = 20%

price on the tag = 80 rupees

Original price of the shirt = ?

Soln

$$\text{Original price} = \frac{80}{100} \times \frac{100}{80}$$

Original price of the shirt = 16 rupees
Ans

(b)

Code for SISTER = ?

Code for BROTHER = Q D G S N Q D

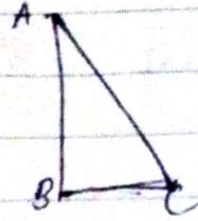
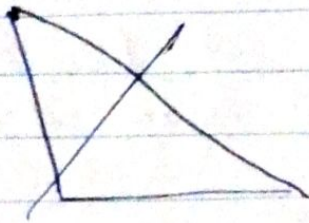
S I S T E R
Q G Q S Q D

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)

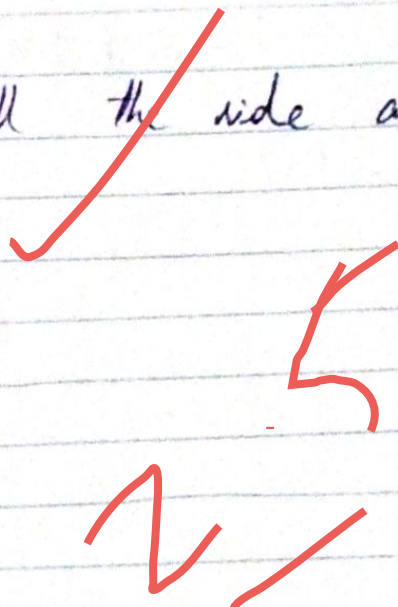
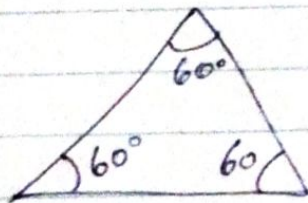
i) Scalene triangle.

A triangle having all the sides and angles unequal.



ii) Equilateral triangle.

A triangle having all the sides equal ($\angle = 60^\circ$)



iii) Isosceles triangle.

A triangle having 2 sides and angles are equal.



Some of all angles ($\angle = 180^\circ$)

Right angle isosceles?

d)

3 slices contain rawin

Total slices = 8

Probability pick a slice with rawin = ?

Probability = $\frac{\text{Number of favorable outcomes}}{\text{Total number of possible outcomes}}$

$$= \frac{3}{8}$$

$$= 0.375$$

Ans

$$\begin{array}{r} 0.375 \\ 8 \overline{) 30} \\ \underline{24} \\ 60 \\ \underline{56} \\ 4 \end{array}$$