

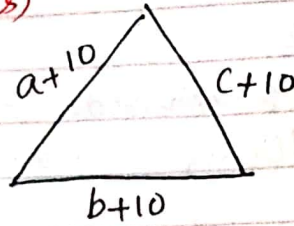
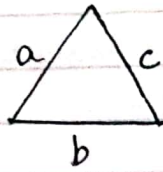
VII Test-12

- 1) Each side of a  $\Delta$  is increased by 10cm, if the ratio of the perimeter of the new triangle and the given triangle is 5:4, find the perimeter of the given triangle.
- 2) The length of a rectangle is 15cm more than its width. The perimeter is 150cm. Find the dimensions of the rectangle.
- 3) The present ages of Veeru and Neeru are in the ratio 3:4. Five years from now, the ratio of their ages will be 4:5. Find their present ages.
- 4) The denominator of a rational number is greater than its numerator by 8. If the numerator is increased by 17 and the denominator is decreased by 1, the number obtained is  $\frac{3}{2}$ . Find the rational number.
- 5) Sheeba has a total of Rs 780 as currency notes in the denominations of Rs 10, Rs 20 and Rs 50. The ratio of the number of Rs 50 notes and Rs 10 notes is 3:2. If she has a total of 32 notes, how many notes of each denomination she has?

VIII

## Test - 12 (Answers)

1)



Perimeter of the given triangle =  $a+b+c$

Perimeter of the new triangle =  $a+10+b+10+c+10$   
 $= a+b+c+30$

$$\text{Then, } \frac{a+b+c+30}{a+b+c} = \frac{5}{4}$$

$$\Rightarrow 4(a+b+c+30) = 5(a+b+c)$$

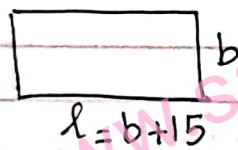
$$\Rightarrow 4a+4b+4c+120 = 5a+5b+5c$$

$$\Rightarrow -a-b-c = -120$$

$$a+b+c = 120 //$$

Hence perimeter of the given triangle =  $120 \text{ cm} //$

2)



let the length,  $l = (b+15) \text{ cm}$

Perimeter =  $150 \text{ cm}$

$$\Rightarrow 2(l+b) = 150$$

$$\Rightarrow l+b = 75$$

$$\Rightarrow b+15+b = 75$$

$$\Rightarrow 2b = 75-15$$

$$\Rightarrow 2b = 60$$

$$\therefore b = 30 \text{ cm}$$

$$l = b+15 = 45 \text{ cm}$$

Hence the dimensions of the rectangle are  $30 \text{ cm}$  and  $45 \text{ cm}$

3)

Let the present ages of Veeru and Neeru be  $3x$  and  $4x$ .  
 After 5 years, Veeru's age =  $3x+5$

and Neeru's age =  $4x+5$

$$\text{Then, } \frac{3x+5}{4x+5} = \frac{4}{5}$$

$$\Rightarrow 5(3x+5) = 4(4x+5)$$

$$\Rightarrow 15x+25 = 16x+20$$

$$\Rightarrow -x = -5$$

$$\therefore x = 5 //$$

Hence the present age of Veeru = 15 years

present age of Neeru = 20 years

4) Let the numerator of the fraction be  $x$  and the denominator be  $x+8$ .

$$\text{Then, } \frac{x+17}{x+8-1} = \frac{3}{2}$$

$$\Rightarrow \frac{x+17}{x+7} = \frac{3}{2}$$

$$\Rightarrow 2(x+17) = 3(x+7)$$

$$\Rightarrow 2x+34 = 3x+21$$

$$\Rightarrow -x = -13$$

$$\therefore x = 13 //$$

Hence the rational number is  $\frac{x}{x+8} = \frac{13}{21}$

5) Let no. of Rs 50 notes be  $3x$  and no. of Rs 10 notes be  $2x$ .

$$\text{Then no. of Rs 20 notes} = 32 - (3x + 2x) = 32 - 5x$$

$$\text{Thus } 50 \times 3x + 10 \times 2x + 20(32 - 5x) = 780$$

$$150x + 20x + 640 - 100x = 780$$

$$70x + 640 = 780$$

$$70x = 140$$

$$x = \frac{140}{70} = \underline{\underline{2}}$$

$$\text{Hence no. of Rs 50 notes} = 2 \times 3 = 6 //$$

$$\text{no. of Rs 10 notes} = 2 \times 2 = 4 //$$

$$\text{no. of Rs 20 notes} = 32 - 5 \times 2 = 32 - 10 = 22 //$$