Exercise 8C

Q13

Answer :

(c) 80

Let the number be x.

$$\therefore \frac{4}{5}x = \frac{3}{4}x + 4$$

$$\Rightarrow \frac{4x}{5} = \frac{3x + 16}{4}$$

$$\Rightarrow 16x = 15x + 80$$

$$\Rightarrow 16x - 15x = 80$$

$$\Rightarrow x = 80$$

Q14

Answer :

(b) 28 years

Let x be the common multiple of the ages of A and B.
Then. the ages of A and B would be 5x and 7x, respectively.

$\therefore \frac{5x+4}{7x+4} = \frac{3}{4}$

$\Rightarrow 4\left(5x+4\right) = 3\left(7x+4\right)$

$\Rightarrow 20x + 16 = 21x + 12$

$\Rightarrow 16 - 12 = 21x - 20x$

$\Rightarrow 4 = x$

$\Rightarrow x = 4$

$\therefore$ Age of $B = 7\left(x\right) = 7 \times 4$

$= 28$ years

Q15

Answer :

(b) 5 cm

Let the equal side of the isosceles triangle be x.

Then, the perimeter of the triangle would be $\left(x + x + 6\right)$.

$\therefore 2x + 6 = 16$

$\Rightarrow 2x = 16 - 6$

$\Rightarrow 2x = 10$

$\Rightarrow x = \frac{10}{2} = 5$

$\therefore$ Length of each equal side $= 5$ cm

Q16

Answer :

(d) 17

Let the three consecutive integers be x, x + 1 and x + 2.

Equation $= x + x + 1 + x + 2 = 51$

$\Rightarrow 3x + 3 = 51$

$\Rightarrow 3x = 51 - 3$

$\Rightarrow 3x = 48$

$\Rightarrow x = \frac{48}{3} = 16$

Middle integer $= x + 1 = 16 + 1 = 17$

Q17

Answer :

(a) 40

Let the numbers be x and x + 15.

$\therefore x + x + 15 = 95$

$\Rightarrow 2x + 15 = 95$

$\Rightarrow 2x = 95 - 15$

$\Rightarrow 2x = 80$

$\Rightarrow x = 40$

The smaller number is 40.

Q18

Answer :

(c) 48

Let the number of boys in the class be x.

Then, the number of girls will be $\left(x - 8\right)$.

The equation becomes :

$\frac{x}{x-8} = \frac{7}{5}$

$\Rightarrow 5x = 7x - 56$

$\Rightarrow 5x - 7x = -56$

$\Rightarrow -2x = -56$

$\Rightarrow x = \frac{-56}{-2} = 28$

Therefore, the number of boys is 28.

Number of girls $= \left(x - 8\right) = 28 - 8 = 20$

Total strength of the class $= 28 + 20 = 48$

********** END **********