



Exercise 10D

Q1

Answer :

(d) 4 : 5

$$92:115 = \frac{92 \div 23}{115 \div 23} = \frac{4}{5} \text{ (As H.C.F. of 92 and 115 is 23.)}$$

Q2

Answer :

(a) 95

$$57:x::51:85$$

$$\frac{57}{x} = \frac{51}{85}$$

$$\Rightarrow x = \frac{57 \times 85}{51}$$

$$\Rightarrow x = \frac{4845}{51} = 95$$

Q3

Answer :

(a) 63

$$25:35::45:x$$

$$\frac{25}{35} = \frac{45}{x}$$

$$\frac{35}{25} = \frac{x}{25}$$

$$\Rightarrow x = \frac{35 \times 45}{25} = \frac{1575}{25} = 63$$

Q4

Answer :

(c) 28

4:5::x:35

$$\Rightarrow \frac{4}{5} = \frac{x}{35}$$

$$\Rightarrow x = \frac{4 \times 35}{5} = 4 \times 7 = 28$$

Q5

Answer :

(b) $ad = bc$

Given:

a, b, c, d are in proportion.

$a:b::c:d$

$$\frac{a}{b} = \frac{c}{d}$$

$$\Rightarrow ad = bc$$

Q6

Answer :

Answer :

$$(b) b^2 = ac$$

Given:

a, b, c are in proportion.

$$a:b::b:c$$

Product of means = Product of extremes

$$\Rightarrow b^2 = ac$$

Q7

Answer :

$$(b) (5 : 8) < (3 : 4)$$

We can write

$$(5 : 8) = \frac{5}{8} \text{ and } (3 : 4) = \frac{3}{4}$$

Making the denominator equal:

$$\frac{5}{8} \text{ and } \frac{3 \times 2}{4 \times 2} = \frac{6}{8}$$

$$\text{As } 6 > 5, \frac{5}{8} < \frac{3}{4}$$

Q8

Answer :

$$(a) \text{ Rs } 440$$

$$A:B = 8:11$$

$$\text{Sum of ratio terms} = 8 + 11 = 19$$

$$B's \text{ share} = \frac{11}{19} \times 760 = \frac{8360}{19} = \text{Rs } 440$$

Q9

Answer :

$$(d) 147$$

$$\text{Ratio} = 5:7$$

Let x be any number such that we have:

$$\begin{aligned}
 5x + 7x &= 252 \\
 \Rightarrow 12x &= 252 \\
 \Rightarrow x &= \frac{252}{12} = 21 \\
 \text{Now, } 5x &= 5 \times 21 = 105 \\
 7x &= 7 \times 21 = 147
 \end{aligned}$$

Q10

Answer :

(b) 50 cm

The sides of the triangle are in the ratio 1:3:5.

Let x be any number such that the sides are $1x$ cm, $3x$ cm and $5x$ cm.

$$1x + 3x + 5x = 90$$

$$\Rightarrow 9x = 90$$

$$\Rightarrow x = \frac{90}{9} = 10$$

$$\text{First side} = 1x = 1 \times 10 = 10 \text{ cm}$$

$$\text{Second side} = 3x = 3 \times 10 = 30 \text{ cm}$$

$$\text{Third side} = 5x = 5 \times 10 = 50 \text{ cm}$$

The length of the largest side is 50 cm.

Q11

Answer :

(c) 2856

Ratio of boys and girls = 12:5

Let x be any number such that the number of boys and girls are $12x$ and $5x$, respectively.

***** END *****