Exercise 7C

Q1

Answer :

$(\mathrm{d})\ \frac{1}{36}$

We have:

$$5x - \frac{3}{4} = 2x - \frac{2}{3}$$

$$\Rightarrow 5x - 2x = \frac{-2}{3} + \frac{3}{4}$$

$$\Rightarrow 3x = \frac{-8+9}{12}$$

$$\Rightarrow x = \frac{1}{12 \times 3}$$

$$\Rightarrow x = \frac{1}{36}$$

Q2

Answer :

$(\mathrm{d})\ \frac{4}{3}$

We have:

$$2z + \frac{8}{3} = \frac{4}{4}z + 5$$

$$\Rightarrow 2z - \frac{1}{4}z = 5 - \frac{8}{3}$$

$$\Rightarrow \frac{8z - z}{4} = \frac{15 - 8}{3}$$

$$\Rightarrow \frac{7z}{4} = \frac{7}{3}$$

$$\Rightarrow z = \frac{\cancel{7}^{1} \times 4}{3 \times \cancel{7}_{1}}$$

$$\Rightarrow z = \frac{4}{3}$$

Q3

Answer :

(a) 5

We have:

$$(2n + 5) = 3(3n - 10)$$

$$\Rightarrow 2n + 5 = 9n - 30$$

$$\Rightarrow 2n - 9n = -30 - 5$$

$$\Rightarrow \cancel{-}7n = \cancel{-}35$$

$$\Rightarrow n = \frac{\cancel{35}^{5}}{\cancel{7}_{1}}$$

$$\Rightarrow n = 5$$

Q4

Answer :

(c) 8

We have:

$\frac{x-1}{x+1} = \frac{7}{9}$

$\Rightarrow 9(x-1) = 7(x+1)$

$\Rightarrow 9x - 9 = 7x + 7$

$\Rightarrow 9x - 7x = 7 + 9$

$\Rightarrow 2x = 16$

$\Rightarrow x = \frac{\cancel{16}^{8}}{\cancel{2}_{1}}$

$\Rightarrow x = 8$

Q5

Answer :

$(c)\ \frac{1}{2}$

We have:

$8(2x-5) - 6(3x-7) = 1$

$\Rightarrow 16x - 40 - 18x + 42 = 1$

$\Rightarrow -2x + 2 = 1$

$\Rightarrow -2x = 1 - 2$

$\Rightarrow \cancel{-}x = \cancel{-}\frac{1}{2}$

$\Rightarrow x = \frac{1}{2}$

Q6

Answer :

(d) 30

We have:

$\frac{x}{2} - 1 = \frac{x}{3} + 4$

$\Rightarrow \frac{x-2}{2} = \frac{x+12}{3}$

$\Rightarrow 3(x-2) = 2(x+12)$

$\Rightarrow 3x - 6 = 2x + 24$

$\Rightarrow 3x - 2x = 24 + 6$

$\Rightarrow x = 30$

Q7

Answer :

(a) 2

We have:

$\frac{2x-1}{3} = \frac{x-2}{3} + 1$

$\Rightarrow \frac{2x-1}{3} = \frac{(x-2)+3}{3}$

$\Rightarrow 3(2x-1) = 3(x+1)$

$\Rightarrow 6x - 3 = 3x + 3$

$\Rightarrow 6x - 3x = 3 + 3$

$\Rightarrow 3x = 6$

$\Rightarrow x = \frac{\cancel{6}^{2}}{\cancel{3}_{1}}$

$= 2$

Q8

Answer :

(b) 26

Let the consecutive whole numbers be x and $(x+1)$.

Then, $x + (x+1) = 53$

$\Rightarrow 2x + 1 = 53$

$\Rightarrow 2x = 53 - 1$

$\Rightarrow x = \frac{\cancel{52}^{26}}{\cancel{2}_{1}}$

$\Rightarrow x = 26$

Q9

Answer :

(d) 44

Let the two consecutive even numbers be x and $(x+2)$.

Then, $x + (x+2) = 86$

$\Rightarrow 2x + 2 = 86$

$\Rightarrow 2x = 86 - 2$

$\Rightarrow x = \frac{\cancel{84}^{42}}{\cancel{2}_{1}}$

$\Rightarrow x = 42$

$\therefore$ The required numbers are 42 and $(42+2)$, i.e., 44.

Q10

Answer :

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