

FlexiPrep

NCERT Class 8 Mathematics Solutions: Chapter 2 – Linear Equations in One Variable Exercise 2.1 Part 2 (For CBSE, ICSE, IAS, NET, NRA 2022)

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Solving $2x + 3 = 9$

$$2x + 3 - 3 = 9 - 3$$

$$2x = 6$$

$$\frac{2x}{2} = \frac{6}{2}$$

$$x = 3$$

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Question 7: Solve the following: $\frac{2x}{3} = 18$

Answer:

Given,

$$\frac{2x}{3} = 18$$

So,

$$\therefore \frac{2x}{3} \times 3 = 18 \times 3 \left[\because \text{Multiplying both sides by } 3 \right]$$

$$\therefore 2x = 18 \times 3$$

$$\therefore \frac{2x}{2} = \frac{18 \times 3}{2} \left[\because \text{Dividing both sides by } 2 \right]$$

$$x = 27$$

Or

Given,

$$\frac{2x}{3} = 18$$

So,

$$\therefore 2x = 18 \times 3 \quad (\because 3 \text{ shift to opposite side numerator})$$

$$\therefore x = \frac{9 \times 3}{2} \quad (\because 2 \text{ shift to opposite side denominator})$$

$$\therefore x = 9 \times 3$$

$$\therefore x = 27$$

Question 8: Solve the following: $1.6 = \frac{y}{1.5}$

Answer:

Given,

$$1.6 = \frac{y}{1.5}$$

So,

$$\therefore 1.6 \times 1.5 = \frac{y}{1.5} \times 1.5 \left[\because \text{Multiplying both sides by } 1.5 \right]$$

$$y = 2.40$$

Question 9: Solve the following: $7x - 9 = 16$

Answer:

Given,

$$7x - 9 = 16$$

So,

$$\therefore 7x - 9 + 9 = 16 + 9 \left[\because \text{Adding both sides by } 9 \right]$$

$$\therefore 7x - \cancel{9} + \cancel{9} = 16 + 9$$

$$\therefore 7x = 16 + 9$$

$$\therefore 7x = 25 \left[\because \text{Dividing both sides by } 7 \right]$$

$$x = \frac{25}{7}$$

Question 10: Solve the following: $14y - 8 = 13$

Answer:

Given,

$$14y - 8 = 13$$

So,

$$\therefore 14y - 8 + 8 = 13 + 8 \left[\because \text{Adding both sides by } 8 \right]$$

$$\therefore 14y - \cancel{8} + \cancel{8} = 13 + 8$$

$$\therefore 14y = 21 \left[\because \text{Dividing both sides by } 14 \right]$$

$$\therefore y = \frac{21}{14}$$

$$y = \frac{3}{2}$$

Question 11: Solve the following: $17 + 6p = 9$

Answer:

Given,

$$17 + 6p = 9$$

So,

$$\therefore 17 + 6p - 6p = 9 - 6p \left[\because \text{Subtracting } 6p \text{ from both sides} \right]$$

$$\therefore 17 + \cancel{6p} - \cancel{6p} = 9 - 6p$$

$$\therefore 17 = 9 - 6p$$

$$\therefore 6p = 9 - 17$$

$$\therefore 6p = -8$$

$$\therefore p = \frac{-8}{6} \left[\because \text{Dividing both sides by } 6 \right]$$

$$= p - \frac{4}{3}$$

Question: 12 Solve the following: $\frac{x}{3} + 1 = \frac{7}{15}$

Answer:

Given,

$$\frac{x}{3} + 1 = \frac{7}{15}$$

So,

$$\therefore \frac{x}{3} + \cancel{1} - \cancel{1} = \frac{7}{15} - 1 \quad [\because \text{Subtracting 1 from both sides}]$$

$$\therefore \frac{x}{3} = \frac{7}{15} - 1 \quad (\because \text{Find } L.C.M \text{ of Denominators is 15})$$

$$\therefore \frac{x}{3} = 7 - 15$$

$$\therefore \frac{x}{3} = -8$$

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

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