Linear Equations in One Variable

A. Choose the Correct Answer:

1. The solution of 2x + 3 = 7 is:

a) 1 b) 2

c) 3 d) 4

2. Which of the following is a linear equation in one variable?

a) $x^2 + 2x = 5$ b) $2x + 3 = 7$

c) $x^3 - 5x = 10$ d) $xy + 5 = 7$

3. Solve: 5x – 4 = 11

a) 2 b) 3

c) 4 d) 5

4. The solution of 3x + 7 = 2x + 12 is:

a) 2 b) 5

c) 7 d) 12

5. The solution of the equation $\frac{x}{2} = 3$ is:

a) 6 b) $\frac{3}{2}$

c) $\frac{2}{3}$ d) 3

B. Write the Missing Terms to Complete the Sentences:

1. A linear equation in one variable has degree _____
2. The solution of 4x – 5 = 11 is x = _____
3. An equation which can be written in the form ax + b = 0 is called a _____
4. To solve a linear equation, we perform the _____ operation on both sides
5. The solution of $\frac{x}{3} + 2 = 5$ is x = _____

C. Figure out the answers to these questions:

1. Solve 3x + 5 = 11
2. Solve 2(x – 3) = 4
3. Find the value of x in 5x – 2 = 3x + 6
4. Solve 7(x + 2) = 5(x – 4)

5. Find x if $\frac{x-1}{2} = \frac{x+3}{4}$

D. Mark each sentence with a True (✓) or False (✗):

1. A linear equation in one variable can have more than one solution. _____
2. The degree of a linear equation is 1. _____
3. The solution of 2x – 5 = 9 is x = 7. _____
4. In solving linear equations, we balance the equation by performing same operations on both sides. _____
5. The solution of 4x + 1 = 5x – 3 is x = 4. _____

E. Challenge yourself with these questions:

1. Solve 4x + 7 = 19
2. Solve 2(x – 5) = 3(x – 2)
3. Solve $\frac{5x}{2} + 3 = 7$
4. Find x if 3(x + 1) = 2(x + 4)
5. Solve $\frac{2x-3}{5} = \frac{x+2}{3}$