1. Which of the following is a linear equation in two variables?

A. 2x + 3 = 0 B. 2x + 3y = 5

C. y2 + x = 7 D. x2 + y2 = 4 (B)

Explanation : The equation 2x + 3y = 5 is of the form ax + by + c = 0, where a, b, and c are real numbers and both x and y are present.

2. The equation x + y = 176 has how many solutions?

A. One B. Two

C. Infinite D. None (C)

Explanation : A linear equation in two variables has infinitely many solutions.

3. What is the standard form of a linear equation in two variables?

A. ax + by = 0 B. ax^2 + by = c

C. ax + by + c = 0 D. ax + by + c = xy

(C)

Explanation : The standard form is ax + by + c = 0 where a, b, and c are real numbers.

4. Which of the following points is a solution of 2x + 3y = 12?

A. (3, 2) B. (1, 4)

C. (2, 3) D. (2, 2) (A)

Explanation : Substituting (3, 2): 2×3 + 3×2 = 6 + 6 = 12, which satisfies the equation.

5. In the equation x = -5, the value of b is:

A. 1 B. 0

C. -5

D. Cannot be determined (B)

Explanation : It can be written as 1x + 0y + 5 = 0; hence, b = 0.

6. Which of the following pairs is not a solution of x - 2y = 4?

A. (0, −2) B. (2, 0)

C. (4, 0) D. (1, 1) (D)

Explanation : 1 - 2×1 = -1 ≠ 4, so (1, 1) is not a solution.

7. If x = 2 and y = 1 satisfy 2x + 3y = k, the value of k is:

A. 5 B. 6

C. 7 D. 8 (C)

Explanation : 2×2 + 3×1 = 4 + 3 = 7, so k = 7.

8. The pair (0, 4) is a solution of which equation?

A. x + y = 4 B. 2x + 3y = 12

C. x - y = -4 D. x + 2y = 4 (B)

Explanation : Substituting (0, 4): 2×0 + 3×4 = 12

9. Which one is NOT a linear equation in two variables?

A. x + y = 5 B. 3x − 2y = 7

C. xy = 4 D. 2x + 3y + 6 = 0 (C)

Explanation : xy = 4 is not linear because it includes product of variables.

10. Which equation has the pair (6, 0) as its solution?

A. x + y = 6 B. 2x + 3y = 12

C. x - 2y = 6 D. x + 2y = 5 (B)

Explanation : 2 × 6 + 3 × 0 = 12, so it satisfies the equation.