

This problem set is intended for practicing **checking** solutions of equations, inequalities, and systems of equations. Instead of applying systematic methods to find solutions (i.e. solving), just check each of the answers offered to eliminate all incorrect answers.

1. Find all solutions of the equation.  $|2x - 3| = 11$

- A) 4 and 7      B) 4      C) -4 and 7      D) -7, 7

2. Solve the equation.  $x + 1 = 9x^3 + 9x^2$

- A) -3, -1, and 7      B) -1,  $-\frac{1}{3}$ , and  $\frac{1}{3}$       C) 0      D) -1, 0, and 1

3. Solve the following equation.  $x^3 = 4x$

- A) -2, 0, and 2      B) -2 and 2      C) 2      D) 0 and 4

4. Solve the following equation:  $2x^2 + 5x = 3$

- A) -3 and  $\frac{1}{2}$       B) -3      C) -3 and 2      D)  $-\frac{3}{2}$  and -1

5. Which of the following is a solution of  $5x - y = 8$ ?

- A)  $x = 3$  and  $y = -7$       B)  $x = 2$  and  $y = -2$       C)  $x = 1$  and  $y = -3$       D)  $x = -1$  and  $y = 13$

6. Solve:

$$\begin{aligned} 5x + y &= 25 \\ x &= y - 7 \end{aligned}$$

- A)  $x = 2$  and  $y = 15$       B)  $x = 3$  and  $y = 10$       C)  $x = 5$  and  $y = 12$       D)  $x = 10$  and  $y = -25$

7. Solve:  $8t + t^2 - 14 = \frac{1}{4}$

- A)  $t = \frac{3}{2}$       B)  $t = \frac{3}{2}$  or  $t = -\frac{3}{2}$       C)  $t = -\frac{19}{2}$  or  $t = \frac{3}{2}$       D)  $t = -\frac{3}{2}$  or  $t = \frac{19}{2}$

8. Solve the following system of equations:

$$\begin{aligned} 2x + 3y &= 11 \\ x - 4y &= 0 \end{aligned}$$

- A)  $x = 4$  and  $y = 1$       B)  $x = 10$  and  $y = -3$       C)  $x = 1$  and  $y = 3$       D)  $x = -1$  and  $y = 4$

9. Solve:  $-6(t + 3) + 2(5 - t) = -9$

- A)  $\frac{11}{8}$       B)  $\frac{17}{8}$       C)  $\frac{22}{7}$       D)  $\frac{1}{8}$

10. Solve:  $\frac{x + 7}{5} - \frac{x - 1}{3} = 2$

- A) -7      B) there is no solution      C) 12      D) -2