

*P.I. A.A.10: Solve systems of two linear equations in two variables algebraically*

Solve:

1.  $3x - 2y = 6$

$$y = x - 3$$

[A] no solution

[B]  $\left(-3, -\frac{15}{2}\right)$

[C] (1, -2)

[D] (0, -3)

2.  $x - 2y = -5$

$$y = 3x + 5$$

[A] (-1, 2)

[B] no solution

[C] (0, 5)

[D]  $\left(2, \frac{7}{2}\right)$

3. Solve the system using substitution.

$$4x + 4y = -2$$

$$y = -x$$

[A] no solution

[B]  $\left(0, -\frac{1}{2}\right)$

[C] (-5, 5)

[D]  $\left(-\frac{1}{2}, \frac{1}{2}\right)$

4. Solve the system using substitution.

$$3x + 2y = -14$$

$$y = x + 3$$

[A]  $\left(-1, -\frac{11}{2}\right)$

[B] no solution

[C] (-4, -1)

[D] (-3, 0)

5. Solve the system using substitution.

$$x + 4y = -19$$

$$y = 3x - 21$$

[A]  $\left(-6, -\frac{13}{4}\right)$

[B] no solution

[C] (6, -3)

[D] (5, -6)

6. Solve the system using substitution.

$$x + 4y = -15$$

$$y = 3x - 20$$

[A] (6, -2)

[B]  $\left(-5, -\frac{5}{2}\right)$

[C] no solution

[D] (5, -5)

Solve the system by substitution:

$$\begin{aligned} 7. \quad x + 4y &= 8 \\ -16y &= 4x - 32 \end{aligned}$$

$$\begin{aligned} 8. \quad x - 2y &= -4 \\ 4x &= 8y - 12 \end{aligned}$$

9. Which system has no solution?

$$\begin{array}{ll} \text{[A]} \quad \begin{aligned} 4x - 2y &= 1 \\ y &= 2x - 7 \end{aligned} & \text{[B]} \quad \begin{aligned} 3x - y &= 3 \\ y &= -3x + 3 \end{aligned} \end{array}$$

$$\begin{array}{ll} \text{[C]} \quad \begin{aligned} y &= 2x + 2 \\ x - 2y &= 1 \end{aligned} & \text{[D]} \quad \begin{aligned} y &= 2x \\ 2x + y &= 1 \end{aligned} \end{array}$$

$$\begin{array}{l} \text{[E]} \quad \begin{aligned} y &= -x + 1 \\ x - y &= 1 \end{aligned} \end{array}$$

10. Compare the quantity in Column A with the quantity in Column B.

 $x$ -coordinates of the solution

<u>Column A</u>	<u>Column B</u>
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$y = -2x$	$y = x + 2$
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$x + y = 5$	$x + 2y = -11$
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[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationships cannot be determined on the basis of the information supplied.

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- [1] D
- [2] A
- [3] A
- [4] C
- [5] D
- [6] D
- [7] dependent (many solutions)
- [8] inconsistent (no solution)
- [9] A
- [10] C