

Chapter 7 ALGd Practice Quiz #2

ALG.d.1 Determine if a given ordered pair is a solution to a linear system of equations.

Tell whether the point (-2,2) is a solution. Explain your decision.

1) $y = -x - 4$
 $y = 3x + 4$

C: $2 = -(-2) - 4$
 $2 = 2 - 4$
 $2 \neq -2$

C: $2 = 3(-2) + 4$
 $2 \neq -2$

← NOT A SOLUTION BECAUSE THE 1ST EQ DIDN'T CHECK

Tell whether the point (-3,1). Explain.

2) $4x - 6y = -18$
 $-3x + 5y = 14$

C: $4(-3) - 6(1) = -18$
 $-12 - 6 = -18$
 $-18 = -18$ ✓

C: $-3(-3) + 5(1) = 14$
 $9 + 5 = 14$ ✓

SOLUTION - BOTH EQ'S CHECKED

ALG.d.2 Solve a linear system of equations algebraically, using the substitution or elimination method as indicated. DON'T FORGET TO CHECK!

Solve the system by substitution. Clearly show EACH STEP. Circle your answer.

3) $-4x + 4y = 12$
 $y = -4x - 17$

$-4x + 4(-4x - 17) = 12$

$-4x - 16x - 68 = 12$

$-20x - 68 = 12$

$+68 +68$

 $-20x = 80$
 $-20 -20$

 $x = -4$

FIND Y

$y = -4(-4) - 17$

$y = 16 - 17$

$y = -1$

C: $12 = 12$ ✓

C: $-1 = -1$ ✓

Solve the system by elimination. Clearly show EACH STEP. Circle your answer.

4) $5x + 4y = -19$
 $4x - 4y = 28$

$\downarrow +$

$9x = 9$

 $9 \quad 9$

 $x = 1$

FIND Y

$5(1) + 4y = -19$

$5 + 4y = -19$

$-5 -5$

 $4y = -24$

$4y = -24$

 $y = -6$

$y = -6$

C: $-19 = -19$ ✓

C: $28 = 28$ ✓

ALG.d.3 Solve a linear system of equations algebraically, by determining an appropriate method. Solve each system by substitution or elimination. Clearly show EACH STEP. DON'T FORGET TO CHECK! Circle your answer.

5) $-7x + 3y = -3$
 $-x + 3y = -21$ →

$$\begin{array}{r} -7x + 3y = -3 \\ \underline{-x + 3y = -21} \\ -6x = 18 \\ \underline{-6} \quad \underline{-6} \\ x = -3 \end{array}$$

FIND Y

$$\begin{array}{r} -7(-3) + 3y = -3 \\ 21 + 3y = -3 \\ \underline{-21} \quad \underline{-21} \\ 3y = -24 \\ \underline{3} \quad \underline{3} \\ y = -8 \end{array}$$

$C: -3 = -3$ ✓
 $C: -21 = -21$ ✓

7) $(3x + 6y = 3) \cdot 2 \rightarrow 6x + 12y = 6$
 $(-2x - 5y = -5) \cdot 3 \rightarrow -6x - 15y = -15$

$$\begin{array}{r} 6x + 12y = 6 \\ \underline{-6x - 15y = -15} \\ -3y = -9 \\ \underline{-3} \quad \underline{-3} \\ y = 3 \end{array}$$

FIND x:

$$\begin{array}{r} 3x + 6(3) = 3 \\ 3x + 18 = 3 \\ \underline{-18} \quad \underline{-18} \\ 3x = -15 \\ \underline{3} \quad \underline{3} \\ x = -5 \end{array}$$

$C: 3 = 3$ ✓
 $C: -5 = -5$ ✓

6) $y = 3x + 14$
 $-5x - 6y = 8$

$$\begin{array}{r} -5x - 6(3x + 14) = 8 \\ -5x - 18x - 84 = 8 \\ -23x - 84 = 8 \\ \underline{+84} \quad \underline{+84} \\ -23x = 92 \\ \underline{-23} \quad \underline{-23} \\ x = -4 \end{array}$$

FIND Y

$$y = 3(-4) + 14$$

$$y = 2$$

$C: 2 = 2$ ✓
 $C: 8 = 8$ ✓