

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

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

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

$-20x - 68 = 12$

$+68 \quad +68$

 $-20x = 80$
 $-20 \quad -20$

 $x = -4$

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

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

$5 + 4y = -19$

$-5 \quad -5$

 $4y = -24$
 $4 \quad 4$

 $y = -6$

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) $-7x + 3y = -3$
 $-1(-x + 3y = -21) \rightarrow$

$$\begin{array}{r} -7x + 3y = -3 \\ x - 3y = 21 \\ \hline -6x = 18 \\ \frac{-6x}{-6} = \frac{18}{-6} \\ \boxed{x = -3} \end{array}$$

FIND Y

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

C: $-3 = -3$ ✓
 C: $-21 = -21$ ✓

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

$$\begin{array}{r} 6x + 12y = 6 \\ -6x - 15y = -15 \\ \hline -3y = -9 \\ \frac{-3y}{-3} = \frac{-9}{-3} \\ \boxed{y = 3} \end{array}$$

FIND x:

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

C: $3 = 3$ ✓
 C: $-5 = -5$ ✓

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

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

FIND Y

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

$$\boxed{y = 2}$$

C: $2 = 2$ ✓
 C: $8 = 8$ ✓