

1. A solution of a system of linear equations in two variables is an ordered pair that satisfies each equation in the system.

3.  $(-3, 1)$

①  $x + y = -2$   
 $-3 + 1 = -2$   
 $\checkmark$

$(-3, 1)$  is a solution.

4.  $(5, 2)$

①  $2x - 3y = 4$   
 $10 - 6 = 4$   
 $\checkmark$

②  $2x + 8y = 11$   
 $10 + 16 = 11$   
 $\times$

$(5, 2)$  is not a solution.

5.  $(-2, 1)$

①  $6x + 5y = -7$   
 $-12 + 5 = -7$   
 $\checkmark$

②  $x - 2y = 0$   
 $-2 - 2 = 0$   
 $\times$

$(-2, 1)$  is not a solution.

6. ①  $x + y = -2$  ②  $7x - 4y = 8$

A.  $(-2, 0)$

①  $-2 + 0 = -2 \checkmark$   
 ②  $-14 - 0 = 8 \times$   
 Not a solution.

B.  $(0, -2)$

①  $0 + (-2) = -2 \checkmark$   
 ②  $0 - (-8) = 8 \checkmark$   
 $(0, -2)$  is a solution! **B**

C.  $(2, 0)$

①  $2 + 0 = -2 \times$   
 Not a solution.

D.  $(0, 2)$

①  $0 + 2 = -2 \times$   
 Not a solution.

7. ①  $2x + 3y = 12$  ②  $10x + 3y = -12$

A.  $(-3, 3)$

①  $-6 + 9 = 12 \times$   
 Not a solution.

B.  $(-3, 6)$

①  $-6 + 18 = 12 \checkmark$   
 ②  $-30 + 18 = -12 \checkmark$   
 $(-3, 6)$  is a solution. **B**

C.  $(3, 3)$

①  $6 + 9 = 12 \times$   
 Not a solution.

D.  $(3, 6)$

①  $6 + 12 = 12 \times$   
 Not a solution.

8. From Graph  $\rightarrow (1, -3)$

Check: ①  $x - y = 4$   
 $1 - (-3) = 4$   
 $\checkmark$

②  $4x + y = 1$   
 $4 + (-3) = 1$   
 $\checkmark$

9. From Graph  $\rightarrow (4, 2)$

Check: ①  $-x + y = -2$   
 $-4 + 2 = -2$   
 $\checkmark$

②  $2x - y = 6$   
 $8 - 2 = 6$   
 $\checkmark$

10. From Graph  $\rightarrow (3, 2)$

check: ①  $x + y = 5$   
 $3 + 2 = 5$   
 $\checkmark$

②  $-2x + y = -4$   
 $-6 + 2 = -4$   
 $\checkmark$

11. Check:  $(3, -1)$

①  $x - 3y = 6$   
 $3 - (-3) = 6$   
 $\checkmark$

②  $2x - 3y = 3$   
 $6 - (-3) = 3$   
 $\times$

$(3, -1)$  is not a solution since it does not make both sentences true.

\* Equation ② is graphed incorrectly!

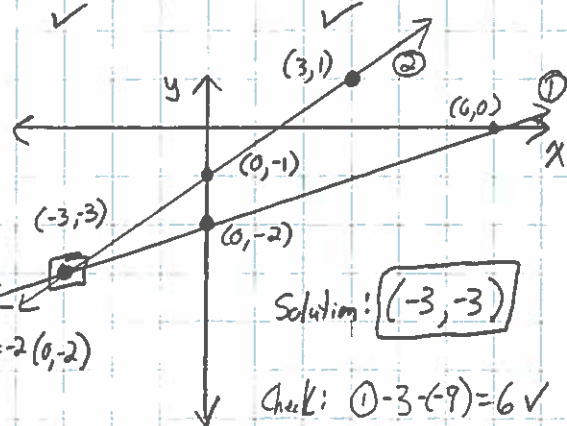
Correction:

①  $x - 3y = 6$   
 ②  $2x - 3y = 3$

①  $x$ -int:  $y$ -int:  
 $y=0$   $x=6(6,0)$   $x=0$   $y=-2(0,-2)$

②  $2x - 3y = 3$   
 $-3y = -2x + 3$   
 $y = \frac{2}{3}x + (-1)$

$\dots$

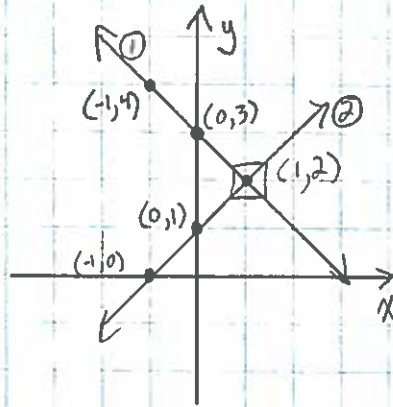


Solution:  $(-3, -3)$

Check: ①  $-3 - (-9) = 6 \checkmark$   
 ②  $-6 - (-9) = 3 \checkmark$

A # 35 continued  
p. 431 # 12-15

12.  $\begin{cases} \textcircled{1} y = -x + 3 \\ \textcircled{2} y = x + 1 \end{cases}$   
 $\textcircled{1} m = -1$  y-int  $(0, 3)$   
 $\textcircled{2} m = 1$  y-int  $(0, 1)$



**Key**

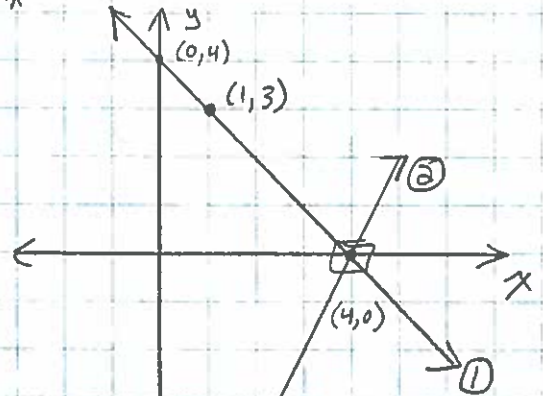
Solution:  $(1, 2)$

check:  $\textcircled{1} 2 = -1 + 3 \checkmark$   
 $\textcircled{2} 2 = 1 + 1 \checkmark$

13.  $\begin{cases} \textcircled{1} y = -x + 4 \\ \textcircled{2} y = 2x - 8 \end{cases}$   
 $\textcircled{1} m = -1$  y-int  $(0, 4)$   
 $\textcircled{2} m = 2$  y-int  $(0, -8)$

Solution:  $(4, 0)$

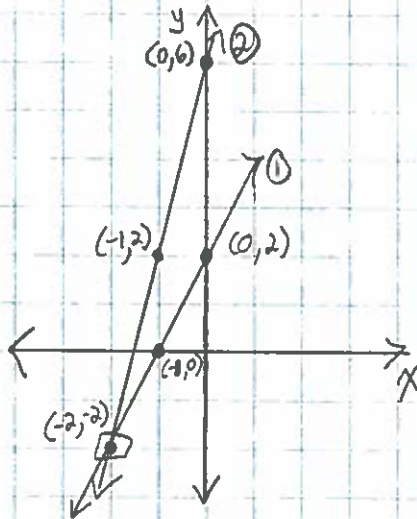
check:  $\textcircled{1} 0 = -4 + 4 \checkmark$   
 $\textcircled{2} 0 = 8 - 8 \checkmark$



14.  $\begin{cases} \textcircled{1} y = 2x + 2 \\ \textcircled{2} y = 4x + 6 \end{cases}$   
 $\textcircled{1} m = 2$  y-int  $(0, 2)$   
 $\textcircled{2} m = 4$  y-int  $(0, 6)$

Solution:  $(-2, -2)$

check:  
 $\textcircled{1} -2 = -4 + 2 \checkmark$   
 $\textcircled{2} -2 = -8 + 6 \checkmark$



15.  $\begin{cases} \textcircled{1} x - y = 2 \\ \textcircled{2} x + y = -8 \end{cases}$   
 $\textcircled{1}$  x-int:  $(2, 0)$   
y-int:  $(0, -2)$   
 $\textcircled{2}$  x-int:  $(-8, 0)$   
y-int:  $(0, -8)$

Solution:  $(-3, -5)$

check:  $\textcircled{1} -3 - (-5) = 2 \checkmark$   
 $\textcircled{2} -3 + (-5) = -8 \checkmark$

