

O.T.L.

① Pg 421 : 20-22(all); 24-29
(all)

20	No Sol.	25	∞ Sol
21	$(\frac{2}{3}, 0)$	26	$(0, -4)$
22	No Sol.	27	∞ Sol
24	No Sol.	28	$(-1, -4)$
		29	NO Sol

~~Handwritten scribbles and text~~

Chapter > Test Tomorrow Thurs. Feb. 1, 200>

14 ?'s

7.1- } 1+2 : Graph & Check
7.3 } 3-6 : Substitution
Quiz } 7-10 : Combo.
O.T.L. } 11-14 : 1 Sol. / NO Sol. / ∞ Sol.
above }

↓
if 1 Sol..
What is
that Sol.?

Why?

Same Slope, Same y-int, \rightarrow Same equation
gives me ∞ many Sol.
Same Slope, Diff. y-int, \rightarrow // lines
 \rightarrow No Sol.

$$\textcircled{21} \begin{cases} 6x - 2y = 4 \\ 12x - 6y = 8 \end{cases}$$

$$\begin{array}{r} 6x - 2y = 4 \\ -6x \quad -6x \\ \hline -2y = -6x + 4 \\ \cdot 2 \quad \cdot 2 \quad \cdot 2 \\ \hline y = 3x - 2 \end{array}$$

$$\begin{array}{r} 3x - 2 = 2x - \frac{4}{3} \\ \hline 9x - 6 = 6x - 4 \\ -6x \quad -6x \\ \hline 3x - 6 = -4 \\ +6 \quad +6 \\ \hline 3x = 2 \\ \cdot \frac{1}{3} \\ \hline x = \frac{2}{3} \end{array}$$

$$\begin{array}{r} 12x - 6y = 8 \\ -12x \quad -12x \\ \hline -6y = -12x + 8 \\ \cdot (-1) \quad \cdot (-1) \quad \cdot (-1) \\ \hline y = 2x - \frac{4}{3} \end{array}$$

$$\begin{array}{r} y = 3\left(\frac{2}{3}\right) - 2 \\ y = 2 - 2 \\ \hline y = 0 \end{array}$$

28

$$\begin{aligned} -6x + 2y &= -2 \\ -4x - y &= 8 \end{aligned}$$

$$\begin{aligned} -6x + 2y &= -2 \\ +6x & \quad +6x \\ \hline 2y &= 6x - 2 \\ \frac{2y}{2} &= \frac{6x}{2} - \frac{2}{2} \end{aligned}$$

$$y = 3x - 1$$

$$\begin{aligned} -4x - y &= 8 \\ +4x & \quad +4x \\ \hline -y &= 4x + 8 \\ \frac{-y}{-1} &= \frac{4x}{-1} + \frac{8}{-1} \\ x &= -4x - 8 \end{aligned}$$

$$\begin{aligned} 3x - 1 &= -4x - 8 \\ -14x & \quad +4x \\ \hline 7x - 1 &= -8 \\ +1 & \quad +1 \\ \hline 7x &= -7 \end{aligned}$$

$$\frac{7x}{7} = \frac{-7}{7}$$

$$x = -1$$

$$\begin{aligned} y &= 3(-1) - 1 \\ y &= -3 - 1 \\ y &= -4 \end{aligned}$$

$$\textcircled{20} \begin{cases} -x + 4y = -20 \\ 3x - 12y = 48 \end{cases}$$

$$\begin{array}{r} -x + 4y = -20 \\ +x \qquad \qquad +x \\ \hline 4y = x - 20 \\ \frac{4y}{4} = \frac{x}{4} - \frac{20}{4} \\ y = \frac{1}{4}x - 5 \end{array}$$

$$\begin{array}{r} 3x - 12y = 48 \\ -3x \qquad \qquad -3x \\ \hline -12y = -3x + 48 \\ \frac{-12y}{-12} = \frac{-3x}{-12} + \frac{48}{12} \\ y = \frac{1}{4}x + 4 \end{array}$$

I AM THE ANSWER

Some Slopes
Different y-int
so... they are
parallel
so... NO
solution

$$\textcircled{2} \begin{cases} 15x - 5y = -20 \\ -3x + y = 4 \end{cases}$$

$$\rightarrow \begin{array}{r} 15x - 5y = -20 \\ -15x \quad -15x \\ \hline \end{array}$$

$$\begin{array}{r} -5y = -15x - 20 \\ \hline -5 \quad -5 \quad -5 \end{array}$$

$$y = 3x + 4$$

$$\rightarrow y = 3x + 4$$



Same Slope
Same y-int.

So... Same equation
So... Infinitely many
Solutions

29

$$\begin{aligned} 2x + y &= -1 \\ -6x - 3y &= -15 \end{aligned}$$

$$\rightarrow y = -2x - 1$$

$$\begin{array}{r} -6x - 3y = -15 \\ +6x \qquad +6x \\ \hline \end{array}$$

$$\begin{array}{r} -3y = 6x - 15 \\ \hline -3 \quad -3 \quad -3 \\ \hline \end{array}$$

$$y = -2x + 5$$

Same Slope
Different y-int
so... they are
Parallel
so... NO Solution

24

$$-7x + 7y = 7$$

$$2x - 2y = -18$$

$$\textcircled{26} \quad \begin{array}{l} 2x + y = -4 \\ 4x - 2y = 8 \end{array}$$