

Name Key

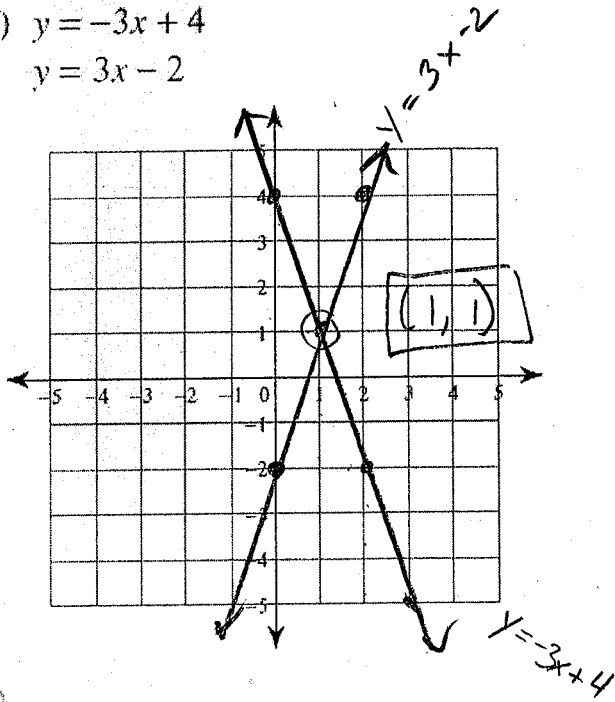
Math 8

Date _____ Period _____

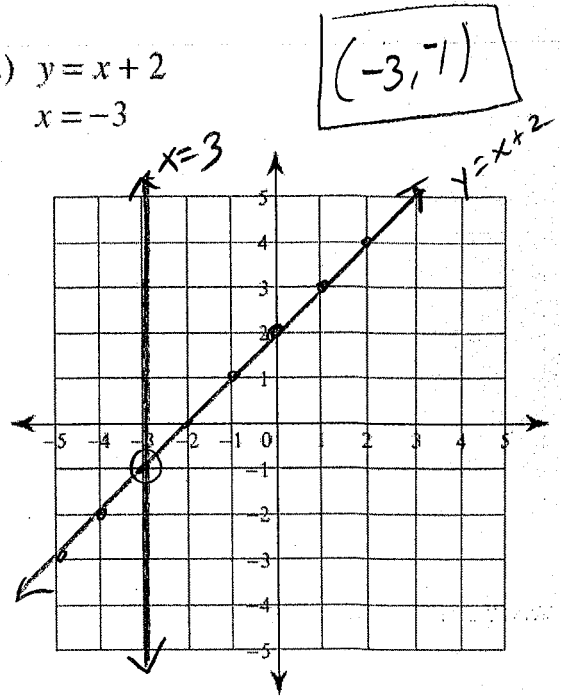
Systems Quiz Review

Solve each system by graphing.

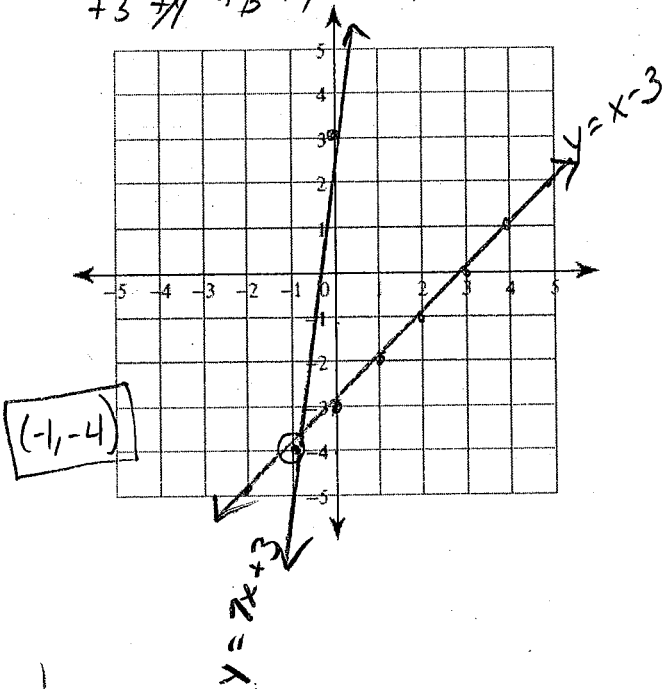
1) $y = -3x + 4$
 $y = 3x - 2$



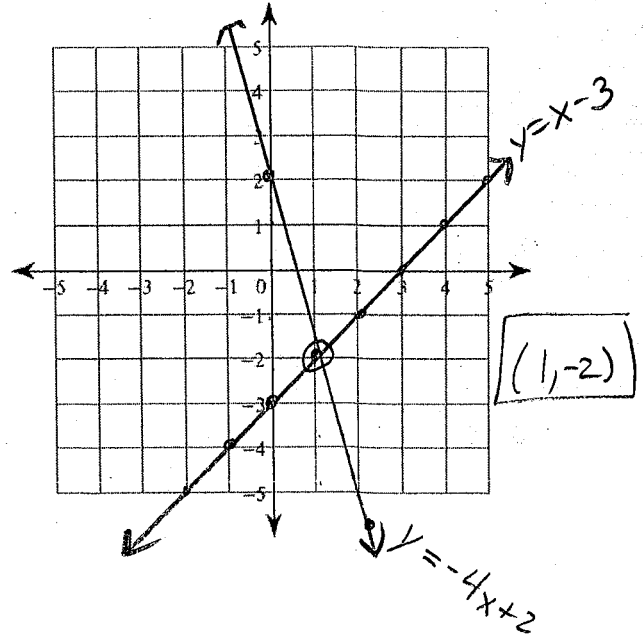
2) $y = x + 2$
 $x = -3$



$-3 + y = -3 + y$
3) $x - y = 3 \rightarrow y = x - 3$
 $7x - y = -3$
 $+3 \quad +3 \quad +y \rightarrow y = 7x + 3$



4) $4x + y = 2 \rightarrow y = -4x + 2$
 $x - y = 3 \rightarrow y = x - 3$



Solve using the substitution method.

$$5. \begin{cases} y = 4x - 9 \\ y = x - 3 \end{cases}$$

$$\begin{array}{r} 4x - 9 = x - 3 \\ -x \quad -x \\ \hline \end{array}$$

$$\begin{array}{r} 3x - 9 = -3 \\ +9 \quad +9 \\ \hline \end{array}$$

$$\frac{3x}{3} = \frac{6}{3}$$

$$\boxed{x = 2}$$

$$y = x - 3$$

$$y = 2 - 3$$

$$\boxed{y = -1}$$

$$7. \begin{cases} y = -5 \\ 5x + 4y = -20 \end{cases}$$

$$5x + 4(-5) = -20$$

$$5x + 4(-5) = -20$$

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

$$\frac{5x}{5} = \frac{0}{5}$$

$$\boxed{\begin{matrix} x = 0 \\ y = -5 \end{matrix}}$$

$$6. 4x + 2y = 10$$

$$\begin{array}{r} x - y = 13 \\ +y \quad +y \\ \hline \end{array}$$

$$\boxed{x = 13 + y}$$

$$4x + 2y = 10$$

$$4(13 + y) + 2y = 10$$

$$52 + 4y + 2y = 10$$

$$\begin{array}{r} 52 + 6y = 10 \\ -52 \quad -52 \\ \hline \end{array}$$

$$\frac{6y}{6} = \frac{-42}{6}$$

$$\boxed{y = -7}$$

$$x = 13 + y$$

$$x = 13 - 7$$

$$\boxed{x = 6}$$

$$8. 2x - 8y = 22$$

$$x + 7y = 0$$

$$\begin{array}{r} -7y - 7y \\ \hline \end{array}$$

$$x = -7y$$

$$2x - 8y = 22$$

$$2(-7y) - 8y = 22$$

$$-14y - 8y = 22$$

$$\begin{array}{r} -22y = 22 \\ -22 \quad -22 \\ \hline \end{array}$$

$$\boxed{y = -1}$$

$$x = -7y$$

$$x = -7(-1)$$

$$\boxed{x = 7}$$

Solve using the elimination (addition/linear combinations) method

$$\begin{array}{r} 9 \quad 7x + 2y = -19 \\ + \quad x - 2y = -21 \\ \hline 8x = -40 \\ \frac{8x}{8} = \frac{-40}{8} \end{array}$$

$$\boxed{x = -5}$$

$$\begin{array}{r} x - 2y = -21 \\ -5 - 2y = -21 \\ +5 \qquad +5 \\ \hline -2y = -16 \\ \frac{-2y}{-2} = \frac{-16}{-2} \\ \boxed{y = 8} \end{array}$$

$$\begin{array}{r} 10. \quad (4x - y = 20) \rightarrow -8x + 2x = -40 \\ -2x - 2y = 10 \rightarrow +2x - 2y = 10 \\ \hline -10x = -30 \\ \frac{-10x}{-10} = \frac{-30}{-10} \end{array}$$

$$\boxed{x = 3}$$

$$\begin{array}{r} 4x - y = 20 \\ 4(3) - y = 20 \\ 12 - y = 20 \\ -12 \quad -12 \\ \hline -y = 8 \\ \frac{-y}{-1} = \frac{8}{-1} \\ \boxed{y = -8} \end{array}$$

$$\begin{array}{r} 11. \quad 2(8x - 6y = -20) \rightarrow 16x - 12y = -40 \\ -16x + 7y = 30 \rightarrow -16x + 7y = 30 \\ \hline \end{array}$$

$$\frac{-5y}{-5} = \frac{-10}{-5}$$

$$\boxed{y = 2}$$

$$\begin{array}{r} 8x - 6y = -20 \\ 8x - 6(2) = -20 \\ 8x - 12 = -20 \\ +12 \quad +12 \\ \hline 8x = -8 \\ \frac{8x}{8} = \frac{-8}{8} \\ \boxed{x = -1} \end{array}$$

$$\begin{array}{r} 12. \quad -2y = 4 - x \rightarrow x - 2y = 4 \\ +x \quad +x \\ -x - 6y = 4 \rightarrow -x - 6y = 4 \\ \hline \end{array}$$

$$\frac{-8y}{-8} = \frac{8}{-8}$$

$$\boxed{y = -1}$$

$$\begin{array}{r} -2y = 4 - x \\ -2(-1) = 4 - x \\ 2 = 4 - x \\ -4 \quad -4 \\ \hline -2 = -x \\ \frac{-2}{-1} = \frac{-x}{-1} \\ \boxed{x = 2} \end{array}$$

$$\begin{array}{r} 13. \quad -8x - 10y = 24 \rightarrow -8x - 10y = 24 \\ 2(6x + 5y = 2) \rightarrow +12x + 10y = 4 \\ \hline \end{array}$$

$$\frac{4x}{4} = \frac{28}{4}$$

$$\boxed{x = 7}$$

$$\begin{array}{r} 6x + 5y = 2 \\ 6(7) + 5y = 2 \\ 42 + 5y = 2 \\ -42 \quad -42 \\ \hline 5y = -40 \\ \frac{5y}{5} = \frac{-40}{5} \\ \boxed{y = -8} \end{array}$$

$$\begin{array}{r} 14. \quad -4y - 11x = 36 \\ 20x - 10x - 10y = 20 \end{array}$$

$$\begin{array}{r} 5(-4y - 11x = 36) \rightarrow -20y - 55x = 180 \\ -2(-10y - 10x = 20) \rightarrow 20y + 20x = -40 \\ \hline -35x = 140 \\ \frac{-35x}{-35} = \frac{140}{-35} \\ \boxed{x = -4} \end{array}$$

$$\begin{array}{r} -4y - 11x = 36 \\ -4y - 11(-4) = 36 \\ -4y + 44 = 36 \\ -44 \quad -44 \\ \hline -4y = -8 \\ \frac{-4y}{-4} = \frac{-8}{-4} \\ \boxed{y = 2} \end{array}$$