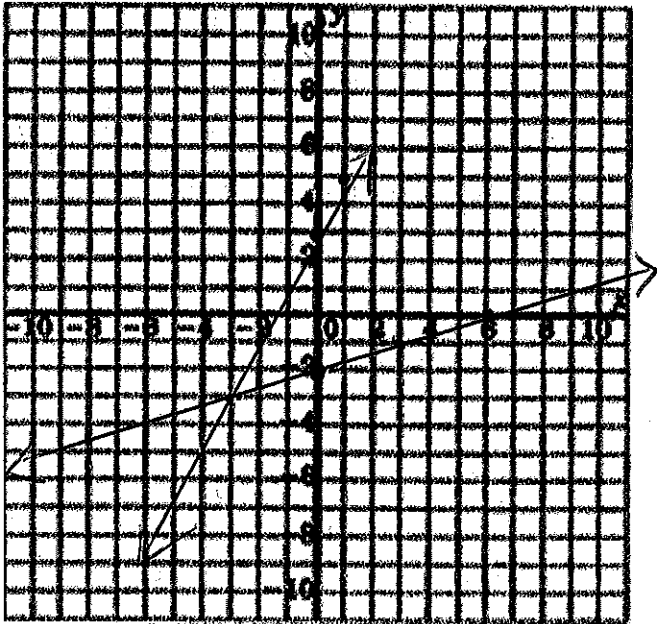


Solve each system by graphing.

$$y = 2x + 3$$

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

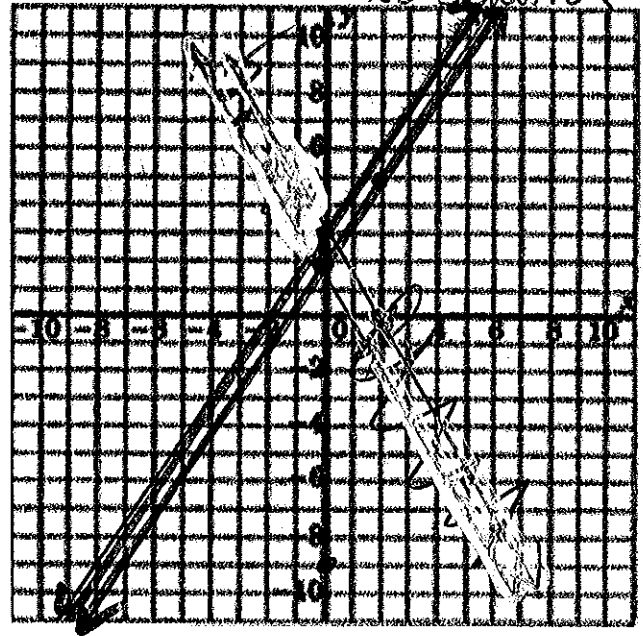
$(-3, -3)$



$$y = 1.5x + 2$$

$$4.5x - 3y = -9$$

~~1.5x + 2~~  
No solution



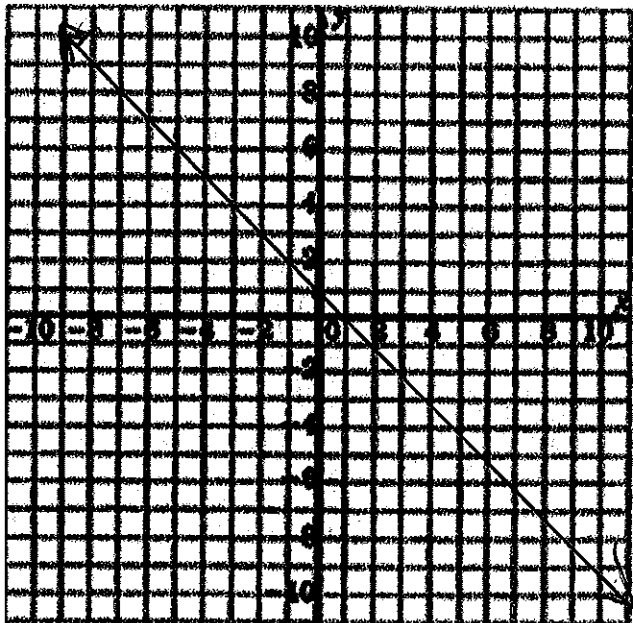
$$y = x + 1$$

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

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

$$y = x + 1$$

Infinite

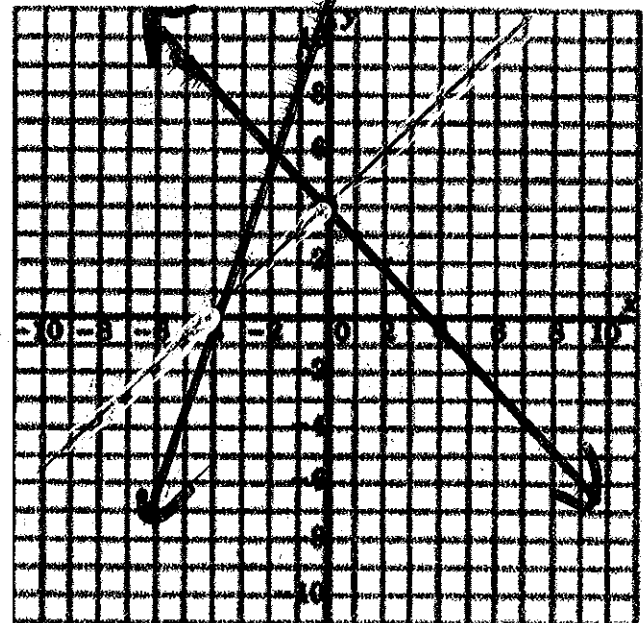


$$y = -x + 4$$

$$-3x = 12 - y$$

$(-2, 6)$

$$y = 3x + 12$$



Solve each system by using substitution.

$$y = 2x - 1$$
$$2x + 2y = 22$$

$$2x + 2(2x - 1) = 22$$

$$2x + 4x - 2 = 22$$

$$6x = 24$$

$$x = 4$$

$$y = 7 \quad (4, 7)$$

$$-x + y = -13 \quad y = x - 13$$
$$3x - y = 19$$

$$3x - (x - 13) = 19$$

$$3x - x + 13 = 19$$

$$2x + 13 = 19$$

$$2x = 6$$

$$x = 3$$

$$-3 + y = -13$$

$$y = -10$$

(3, -10)

$$y = x - 7$$
$$3x - 3y = -21$$

$$3x - 3(x - 7) = -21$$

$$3x - 3x + 21 = -21$$

$$21 = -21$$

$$\frac{-21 \quad -21}{0} = -42$$

No solution

$$2x + y = -12$$

$$-4x - 2y = 30$$

$$y = -2x - 12$$

$$-4x - 2(-2x - 12) = 30$$

$$-4x + 4x + 24 = 30$$

$$24 = 30$$

No solution

Solve each system by using elimination.

$$(-5) \quad x + 2y = 23$$

$$5x + 10y = 55$$

$$-5x - 10y = -115$$

$$5x + 10y = 55$$

$$0 = -60$$

No solution

$$(-3) \quad 7x + y = 6$$

$$5x + 3y = 34$$

$$-21x - 3y = -18$$

$$5x + 3y = 34$$

$$-16x = 16$$

$$x = -1$$

$$7(-1) + y = 6$$

~~7~~

$$-7 + y = 6$$

$$y = 13$$

(-1, 13)

$$(1/3) 5x + 4y = -83$$

$$(4) 3x - 3y = -12$$

$$15x + 12y = -249$$

$$12x - 12y = -48$$

$$\hline 27x = -297$$

$$x = -11 \quad (-11, -7)$$

$$3(-11) - 3y = -12$$

$$-33 - 3y = -12$$

$$-3y = 21$$

$$y = -7$$

$$4x + y = 21$$

$$(2) -2x + 6y = 9$$

$$4x + y = 21$$

$$-4x + 12y = 18$$

$$\hline 13y = 39$$

$$y = 3$$

$$-2x + 18 = 9$$

$$-2x = -9$$

$$x = 4.5$$

$$(4.5, 3)$$

$$y = 3x - 27$$

$$x - \frac{1}{3}y = 9$$

$$-3x + y = -27$$

$$(3) \quad x - \frac{1}{3}y = 9$$

$$-3x + y = -27$$

$$3x + y = 27$$

$$\hline 0 = 0$$

Infinite

~~$$5x + 4y = -83$$~~

~~$$3x - 6y = 12$$~~

Half a pepperoni pizza plus three fourths of a ham and pineapple pizza contains 765 calories. One fourth of a pepperoni pizza plus a whole ham and pineapple pizza contains 745 calories. How many calories are in each whole pizza?

$$\frac{1}{2}x + \frac{3}{4}y = 765$$

$$(-2) \quad \frac{1}{4}x + y = 745$$

$$\hline \frac{1}{2}x + \frac{3}{4}y = 765$$

$$-\frac{1}{2}x - 2y = -1490$$

$$\hline -\frac{5}{4}y = -725$$

$$-\frac{5}{4}y = -725$$

$$y = 580$$

$$\frac{1}{4}x + y = 745$$

$$\frac{1}{4}x + 580 = 745$$

$$\frac{1}{4}x = 165$$

$$x = 660$$

$$\begin{array}{r} 145 \\ 5 \overline{) 725} \\ \underline{580} \\ 145 \end{array}$$

~~$$290$$~~

$$\begin{array}{r} 290 \\ \div \frac{1}{4} \\ \hline 4 \overline{) 580} \\ \underline{480} \\ 100 \\ \underline{80} \\ 20 \end{array}$$

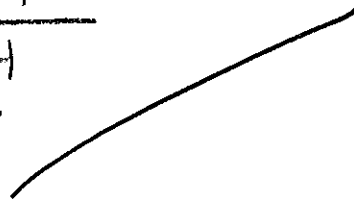
I have 18 quarters and dimes in my pocket. The 18 quarters and dimes total \$2.55.  
How many quarters do I have? How many dimes do I have?

$$\begin{array}{r}
 x + y = 18 \\
 (-4) \quad .25x + .1y = 2.55 \\
 \hline
 x + y = 18 \\
 -x - .4y = -10.20 \\
 \hline
 .6y = 7.80 \\
 13 \quad y = 13 \\
 x = 5
 \end{array}$$

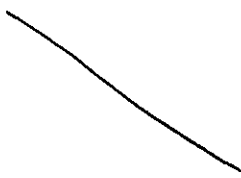
The sum of a number plus two times another number is twelve. The difference between three times the first number and the second number is negative twenty. What are the two numbers?

$$\begin{array}{r}
 x + 2y = 12 \\
 (2) \quad 3x - y = -20 \\
 \hline
 x + 2y = 12 \\
 6x - 2y = -40 \\
 \hline
 7x = -28 \\
 \frac{7x}{7} = \frac{-28}{7} \\
 \hline
 x = -4
 \end{array}
 \qquad
 \begin{array}{r}
 -4 + 2y = 12 \\
 +4 \qquad +4 \\
 \hline
 2y = 16 \\
 y = 8
 \end{array}
 \qquad
 (-4, 8)$$

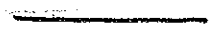
Draw a line with positive slope.



Draw a line with negative slope.



Draw a line with no slope.



Draw a line with undefined slope.

