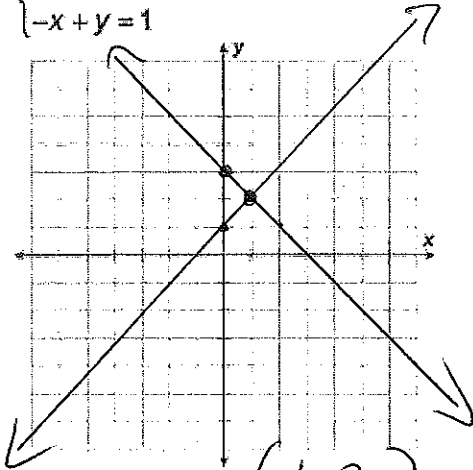


Solve by graphing:

$$\begin{cases} x+y=3 \\ -x+y=1 \end{cases}$$



solution: (1,2)

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

Solve using any method:

$$\begin{cases} 2x-y=6 \\ x+y=-3 \end{cases}$$

$$\begin{aligned} 3x &= 3 \\ x &= 1 \end{aligned}$$

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

$$\begin{aligned} 4x+10y &= 2 \\ -4x+8y &= 16 \end{aligned}$$

$$\begin{aligned} 18y &= 18 \\ y &= 1 \end{aligned}$$

$$\begin{aligned} 4x+10(1) &= 2 \\ 4x+10 &= 2 \\ 4x &= -8 \\ x &= -2 \end{aligned}$$

(-2,1)

$$5. \begin{cases} 2x+y=8 \\ y=x-7 \end{cases}$$

$$\begin{aligned} 2x+x-7 &= 8 \\ 3x-7 &= 8 \\ 3x &= 15 \\ x &= 5 \end{aligned}$$

$$\begin{aligned} y &= 5-7 \\ y &= -2 \\ (5, -2) \end{aligned}$$

$$6. \begin{cases} 2x+3y=0 \\ x+2y=-1 \end{cases}$$

$$\begin{aligned} 2x+3y &= 0 \\ -2x-4y &= 2 \\ \hline -y &= 2 \\ y &= -2 \end{aligned}$$

$$\begin{aligned} x+2(-2) &= -1 \\ x-4 &= -1 \\ x &= 3 \end{aligned}$$

(3, -2)

$$4. \begin{cases} -3x-7y=8 \\ 3x-2y=-44 \end{cases}$$

$$\begin{aligned} -9y &= -36 \\ y &= 4 \end{aligned}$$

$$\begin{aligned} 3x-2(4) &= -44 \\ 3x-8 &= -44 \\ 3x &= -36 \\ x &= -12 \end{aligned}$$

(-12, 4)

Solving Systems Review

Name KEY

$$\begin{cases} y - x = 17 \\ 2y + 3x = -11 \end{cases} \quad y = x + 17$$

$$\begin{aligned} 2(x + 17) + 3x &= -11 \\ 2x + 34 + 3x &= -11 & y &= -9 + 17 \\ 5x &= -45 & &= 8 \\ x &= -9 \end{aligned}$$

$(-9, 8)$

$$\textcircled{4} \begin{cases} x + 6y = 1 \\ 2x - 3y = 32 \end{cases}$$

$$\begin{aligned} x + 6y &= 1 \\ 4x - 6y &= 64 \\ \hline 5x &= 65 \\ x &= 13 \end{aligned}$$

$$\begin{aligned} 13 + 6y &= 1 \\ 6y &= -12 \\ y &= -2 \end{aligned}$$

$(13, -2)$

Helen spent \$7.75 to purchase 23 snack-sized bags of chips c and pretzels p for a club meeting. The following system represents this situation.

$$\begin{cases} c + p = 23 \\ 0.25c + 0.5p = 7.75 \end{cases}$$

$$c = 23 - p$$

$$\begin{aligned} 0.25(23 - p) + 0.5p &= 7.75 \\ 5.75 - 0.25p + 0.5p &= 7.75 \\ 0.25p &= 2 \\ p &= 8 \end{aligned}$$

How many of each type of snack did Helen buy?

$$\begin{aligned} c &= 23 - 8 \\ &= 15 \end{aligned}$$

$(15, 8)$

15 bags of chips
8 bags of pretzels

At Healthy Hair, the cost of a child's haircut is \$4 and the cost of an adult haircut is \$14. The sales from the 42 haircuts given on Friday were \$588. How many adults and children had haircuts on Friday? The answer is the solution to the following system.

$$\textcircled{-4} \begin{cases} 4c + 14a = 588 \\ c + a = 42 \end{cases}$$

$(42, 0)$

$$\begin{aligned} 4c + 14a &= 588 \\ -4c - 4a &= -168 \\ \hline 10a &= 420 \\ a &= 42 \end{aligned}$$

42 adults, 0 children