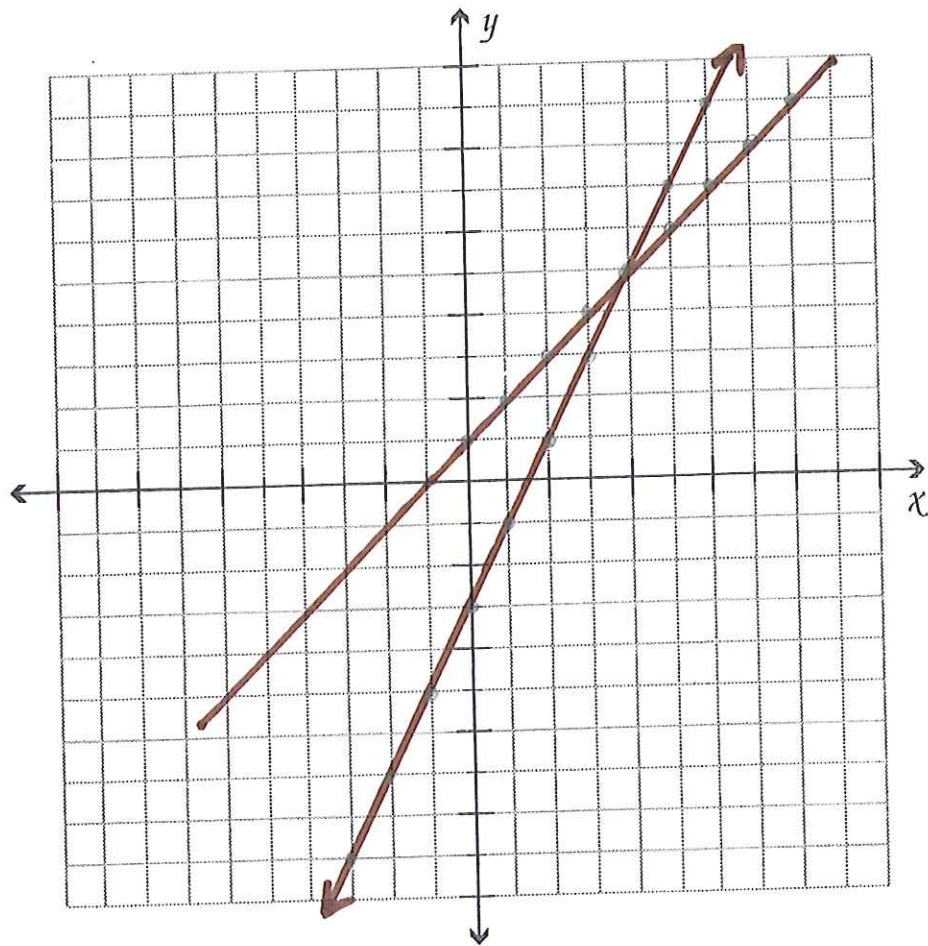


Solving Systems

Solve the system
 $y = 2x - 3$ and $y = x + 1$
by graphing.



The solution is the
intersection: $(4, 5)$.

Solve the system
 $y = 2x - 3$ and $y = x + 1$
using the graphing calculator.

Step 1: $y_1 = 2x - 3$
 $y_2 = x + 1$

Step 2: CALC (2nd TRACE)
5, ENTER,
ENTER, ENTER

Step 3: Answer $(4, 5)$

Solve the system
 $y = 2x - 3$ and $y = x + 1$
using the table.

x	y_1	y_2
1	-1	2
2	1	3
3	3	4
4	5	5
5	7	6
6	9	7

Step 1: Find where $y_1 = y_2$.

x	y_1	y_2
4	5	5

Answer:

$$x = 4 \quad y = 5$$

$(4, 5)$

Solve the system

$$2x - 3y = -11$$

$$-3x + 4y = 15$$

using the graphing calculator.

Calculator: 2nd MATRIX;

→ EDIT ; 1 ;

2 ; ENTER ;

3 ; ENTER

Type in the coefficients:

2 ; ENTER ; -3 ; ENTER ;

-11 ; ENTER ;

-3 ; ENTER ; 4 ; ENTER ;

15 ; ENTER

2nd ; MODE ; 2nd ; MATRIX ;

→ MATH ; ↓ rref ; ENTER ;

2nd ; MATRIX ; 1 ; ENTER

$$\begin{bmatrix} 1 & 0 & -1 \\ 0 & 1 & 3 \end{bmatrix} \Rightarrow \boxed{\begin{array}{l} x = -1 \\ y = 3 \end{array}}$$

Solve the system
using substitution.

$$3x - 4y = 11$$

$$y = x - 3$$

Step 1: Substitute.

$$3x - 4y = 11$$

$$3x - 4(x - 3) = 11$$

Step 2: Solve for x.

$$3x - 4x + 12 = 11$$

$$-x + 12 = 11$$

$$\frac{-12}{-1} \quad \frac{-12}{-1}$$

$$-x = -1$$

$$\frac{-x}{-1} = \frac{-1}{-1}$$

$$x = 1$$

Step 3: Plug in 1 for x
and solve.

$$y = x - 3$$

$$y = 1 - 3 = -2$$

$$(1, -2)$$