

Algebra 1 3.2

Solve linear equations by graphing

Estimate solutions to a linear equation by graphing

Equations with no solution :O

linear function

parent function

family of graphs

→ solution (root) of an equation x -int

zero of a function

activ: whiteboards

Quiz tomorrow 3.1-3.2

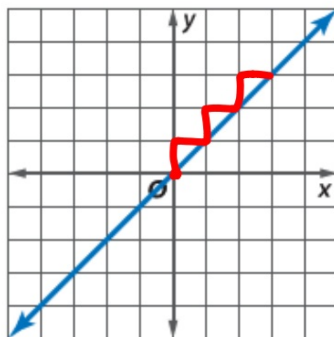
KeyConcept Linear Function

Parent function: $f(x) = 1x + 0$

Type of graph: line

Domain: x all real numbers ARN

Range: y all real numbers ARN



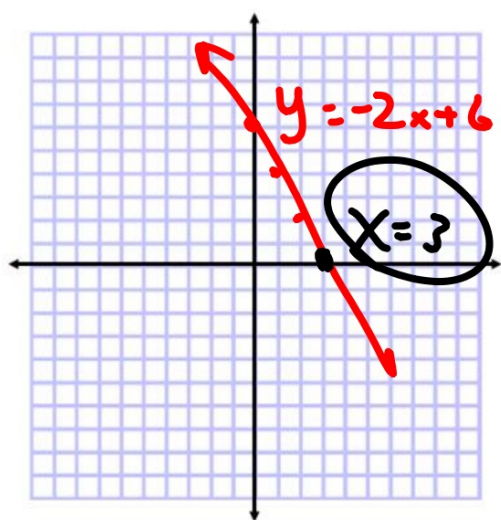
Whiteboards

Solve each equation by graphing. Verify your answer algebraically.

1. $-2x + 6 = 0$

$$y = -2x + 6$$

$\cdot$ $\frac{-2}{1}$ rise
run



2. $-x - 3 = 0$

$$\begin{array}{r} -2x + 6 = 0 \\ -6 \quad -6 \\ \hline -2x = -6 \\ \frac{-2}{-2} \quad \frac{-6}{-2} \\ \hline x = 3 \end{array}$$

* Graph the related function

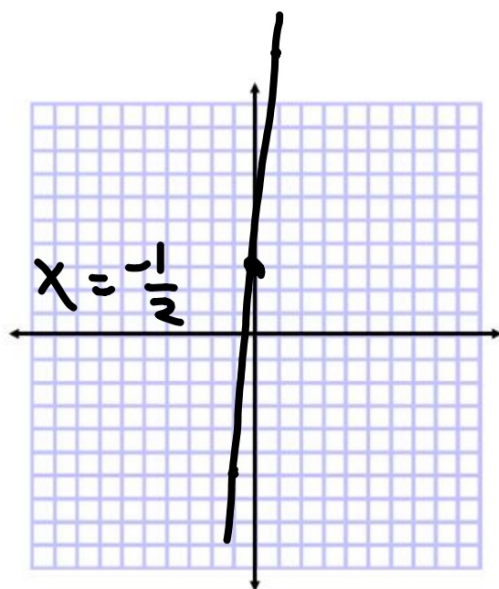
3. $4x - 2 = 0$

4. $9x + 3 = 0$

~~-0.333333~~ $y = 9x + 3$

$\frac{-9}{-1}$

$$\begin{array}{r} 9x + 3 = 0 \\ \underline{-3 \quad -3} \\ 9x = -3 \\ \frac{9x}{9} = \left(\frac{-3}{9} \right) \\ \boxed{x = -\frac{1}{3}} \end{array}$$



Example 2 Solve an Equation with No Solution

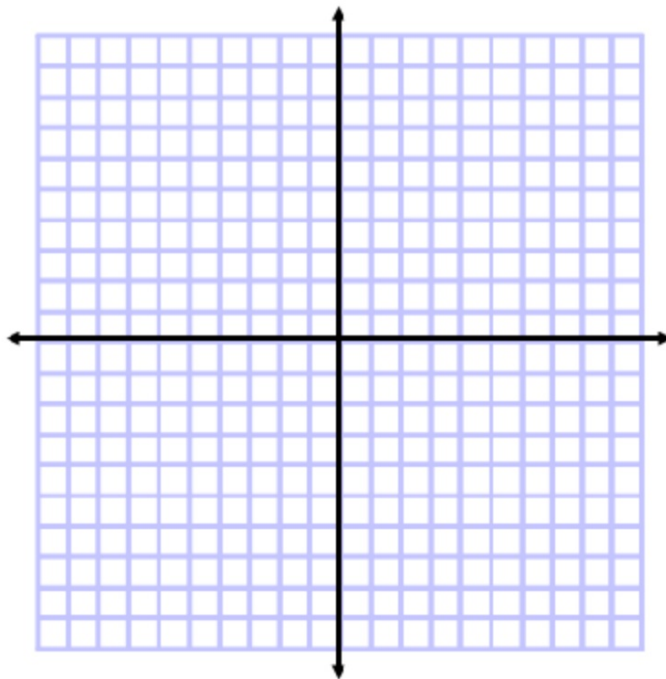
Solve each equation.

a. $3x + 7 = 3x + 1$

$$\begin{array}{r} \textcircled{-3x} \quad \textcircled{-3x} \\ \hline 7 = 1 \quad \text{NS} \end{array}$$

Solve by graphing.
Where do they meet?

Solve by algebra.
What does it mean?



5. $\underline{\quad} - 5 = \underline{\quad} + 8$

$$-5 = 8$$

NS

6. $\underline{\quad} + 11 = \underline{\quad} - 24$

$$11 = -24$$

NS

7. $3x - 5 = 3x - 10$

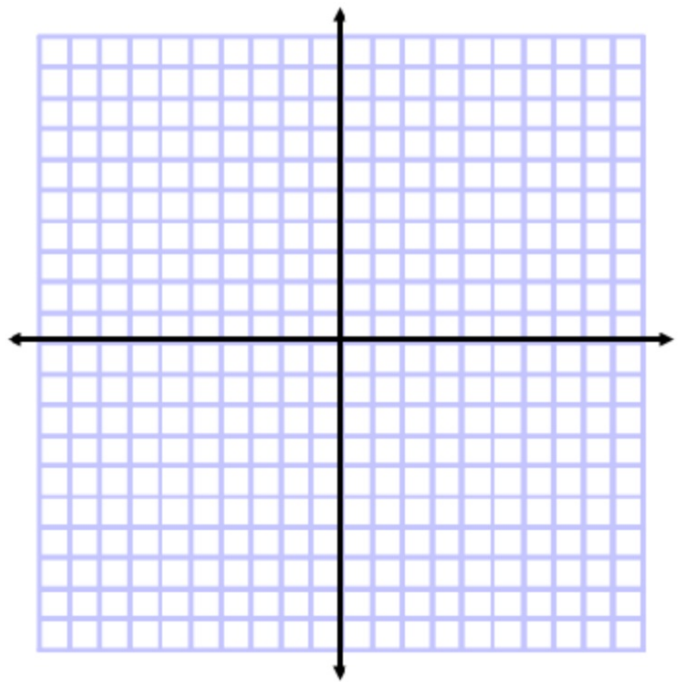
$$\begin{array}{r} -3x \quad -3x \\ \hline -5 = -10 \end{array}$$

8. $-6x + 3 = -6x + 5$

GuidedPractice

2A. $4x + 3 = 4x - 5$

2B. $2 - 3x = 6 - 3x$



9. **NEWSPAPERS** The function $w = 30 - \frac{3}{4}n$ represents the weight w in pounds of the papers in Tyrone's newspaper delivery bag after he delivers n newspapers. Find the zero and explain what it means in the context of this situation.

$$y=0 \quad n=40$$

$$w = 30 - \frac{3}{4}n$$

$$+\frac{3}{4}n$$

$$+\frac{3}{4}n$$

$$30 - \frac{3}{4} \cdot 40$$

$$\frac{4}{3} \cdot \frac{3}{4}n = 30 \cdot \frac{4}{3}$$

$$\frac{12}{12}n = \frac{120}{3}$$

$$n = 40$$

