

Name: _____

Key

Algebra 1A Finals Study Guide

Two-step equations:

1.) $1 - 3x = 34$

$$\begin{array}{r} \cancel{-1} \\ -3x = 33 \\ \div 3 \quad \div 3 \\ \hline x = -11 \end{array}$$

3.) $-6x - 4 = -4$

$$\begin{array}{r} +4 \quad +4 \\ -6x = 0 \\ \div 6 \quad \div 6 \\ \hline x = 0 \end{array}$$

2.) $-8 + 3x = -8$

$$\begin{array}{r} +8 \quad +8 \\ \cancel{-8} \\ 3x = 0 \\ \div 3 \quad \div 3 \\ \hline x = 0 \end{array}$$

4.) $-3x + 6 = 21$

$$\begin{array}{r} -6 \quad -6 \\ \cancel{-6} \\ -3x = 15 \\ \div -3 \quad \div -3 \\ \hline x = -5 \end{array}$$

Distributive and Solve:

5.) $2(-3x + 5) = 28$

$$\begin{array}{r} -6x + 10 = 28 \\ \div 10 \quad \div 10 \\ -6x = 18 \\ \div -6 \quad \div -6 \\ \hline x = -3 \end{array}$$

6.) $4(-9 - 6x) = -252$

$$\begin{array}{r} -36 - 24x = -252 \\ +36 \quad +36 \\ \cancel{-36} \\ -24x = -216 \\ \div -24 \quad \div -24 \\ \hline x = 9 \end{array}$$

7.) $7(-4 + 6x) = -28$

$$\begin{array}{r} -28 + 42x = -28 \\ +28 \quad +28 \\ \cancel{-28} \\ 42x = 0 \\ \div 42 \quad \div 42 \\ \hline x = 0 \end{array}$$

8.) $-6(4 + x) = -42$

$$\begin{array}{r} -24 - 6x = -42 \\ +24 \quad +24 \\ \cancel{-24} \\ -6x = -18 \\ \div -6 \quad \div -6 \\ \hline x = 3 \end{array}$$

Combine Like Terms and Solve:

9.) $2x + 2 = 5x + 14$

$$\begin{array}{r} \cancel{2x} \quad \cancel{-2x} \\ 2 = 3x + 14 \\ -14 \quad -14 \\ \hline -12 = 3x \\ \div 3 \quad \div 3 \\ \hline x = -4 \end{array}$$

10.) $4x - 10 = -6 + 2x$

$$\begin{array}{r} \cancel{4x} \quad \cancel{-2x} \\ -2x - 10 = -6 \\ +10 \quad +10 \\ \hline -2x = 4 \\ \div -2 \quad \div -2 \\ \hline x = 2 \end{array}$$

11.) $-2(2x + 5) = 6$

$$\begin{array}{r} -4x - 10 = 6 \\ +10 \quad +10 \\ \hline -4x = 16 \\ \div -4 \quad \div -4 \\ \hline x = -4 \end{array}$$

12.) $5(-6x - 4) = 70$

$$\begin{array}{r} -30x - 20 = 70 \\ +20 \quad +20 \\ \hline -30x = 90 \\ \div -30 \quad \div -30 \\ \hline x = -3 \end{array}$$

Systems of Equations: Solve for x and for y SUBSTITUTE!!

13.) $5x + 2y = -38$
 $-x - 3y = 42$

$$\begin{array}{r} 5x + 2y = -38 \\ -x - 3y = 42 \\ \hline 6y = -80 \end{array}$$

$y = -\frac{80}{6}$
 $y = -\frac{40}{3}$

$y = -4$

$5x + 2(-4) = -38$
 $5x - 8 = -38$
 $5x = -30$
 $x = -6$

$x = -6$

14.) $2x + 2y = 12$
 $-2x - 4y = -18$

$$\begin{array}{r} 2x + 2y = 12 \\ -2x - 4y = -18 \\ \hline -2y = -6 \end{array}$$

$y = 3$

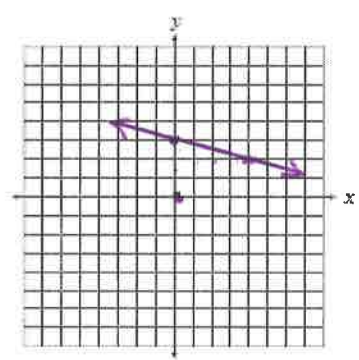
$2x + 2(3) = 12$
 $2x + 6 = 12$
 $2x = 6$
 $x = 3$

$x = 3$

15. Identify the slope and y-intercept of the line, then graph the equation.

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

$m = -\frac{1}{4}$
 $b = 3$



16. Be able to describe and identify the characteristics of the parent functions of quadratics and absolute value

Quadratic parent function $f(x) = x^2$ ✓
 Absolute value parent function $f(x) = |x|$ ✓