Quiz 4.25.14 A key
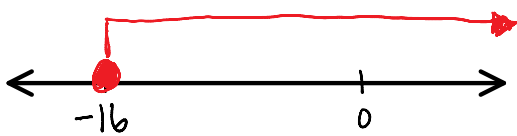
Great Grapher __Key__

Period _____

1) Simplify

$2(3x - 4) - 6(x - 5) + 17$

$6x - 8 - 6x + 30 + 17$

$6x - 6x - 8 + 30 + 17$

$\boxed{45}$

2) Solve and graph using a number line

-16 ⟶ 0

5 · $\dfrac{-2x + 3}{5} \leq 7 \cdot 5$ multiply by 5

$-2x + 3 \leq 35$ subtract 3

$-3 -3$

$\dfrac{-2x}{-2} \leq \dfrac{32}{-2}$ divide by -2

$\boxed{x \geq -16}$

3) Graph the quadratic function

$y = x^2 - 4x - 3$

① axis of symmetry

$x = \dfrac{-b}{2a}$

$x = \dfrac{-(-4)}{2(1)} = \dfrac{4}{2} = 2$

② Plug in to find vertex

$y = x^2 - 4x - 3$
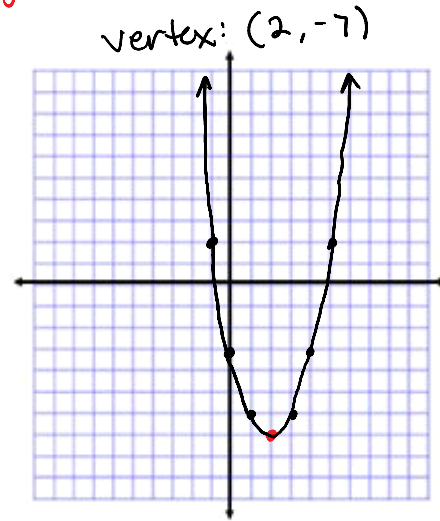
$y = (2)^2 - 4(2) - 3$

$y = 4 - 8 - 3$

$y = -7$

③ Find other points

1 (a) = 1
3 (a) = 3
5 (a) = 5

* a = 1

vertex: (2, -7)

4) Solve

subtract 5x

subtract 12

divide by -8

$-3x + 12 = 5x - 6$
$-5x -5x$

$-8x + 12 = -6$
$-12 -12$

$\dfrac{-8x}{-8} = \dfrac{-18}{-8}$

$x = \dfrac{18}{8}$ simplify

$\boxed{x = \dfrac{9}{4} \text{ or } 2\tfrac{1}{4} \text{ or } 2.25}$

6) Simplify the radical

$\sqrt{24} = \sqrt{4 \cdot 6} = \sqrt{4} \cdot \sqrt{6}$

$\boxed{2\sqrt{6}}$

5) Garlic Shrimp: Mr. Marcus went to the store and bought a bag of shrimp and two cans of clam juice and spent $23. He then found out that he was having friends come over for dinner, so he went back to the store and bought two bags of clams and three cans of clam juice and spent $42. *How much does a can of clam juice cost?*

S = price per bag of shrimp
C = price per can of clam juice

create opposites

$-2 \cdot [S + 2C = 23] \rightarrow -2S - 4C = -46$

$$\text{create opposites} \quad -2 \cdot [S + 2C = 23] \rightarrow \quad -2S - 4C = -46$$
$$2S + 3C = 42 \qquad \qquad 2S + 3C = 42$$

add equations + to eliminate one of the variables

$$-C = -4 \qquad \text{divide by } -1$$
$$\frac{-C}{-1} = \frac{-4}{-1}$$

$$C = 4$$

It costs $4 for a can of clam juice