Finding the Line of Symmetry:

$y = ax^2 + bx + c$

LOS: $x = \frac{-b}{2a}$

"opposite of b divided by $2a$"

When a quadratic is in Standard Form: $y = ax^2 + bx + c$

the y-intercept is always the constant (c).

Ways to find x-intercepts of a quadratic function (solving the equation when y=0):

- Factoring
- Graphing
- Square Roots
- Quadratic Formula

Perfect Squares:
4
9
16
25
36
49
64
81
100

Simplify.

$\sqrt{252}$

$\sqrt{36 \cdot 7}$

$\sqrt{36} \cdot \sqrt{7}$

$6\sqrt{7}$

$\sqrt{252}$

$\sqrt{4 \cdot 63}$

$2\sqrt{63}$

$2\sqrt{9 \cdot 7}$

$2 \cdot 3\sqrt{7} = 6\sqrt{7}$

Simplify each.

1. $\sqrt{48}$

$\sqrt{4 \cdot 12}$

$2\sqrt{12}$

$2\sqrt{4 \cdot 3}$

$2 \cdot 2\sqrt{3}$

$= \boxed{4\sqrt{3}}$

2. $\sqrt{180}$

$\sqrt{5 \cdot 36}$

$6\sqrt{5}$

3. $\sqrt{153}$

$\sqrt{9 \cdot 17}$

$3\sqrt{17}$

4. $\sqrt{384}$

$\sqrt{64 \cdot 6}$

$8\sqrt{6}$

Perfect Squares:
4
9
16
~~25~~
36
49
64
~~81~~
~~100~~

Estimate the value of each square root as being between two consecutive intergers. (NO CALC!)

Perfect Squares:
4
9
16
25
36
49
64
81
100

$\sqrt{13}$

$\sqrt{9}$ $\sqrt{16}$

3 & 4

$\sqrt{56}$

7 & 8

$\sqrt{74}$

8 & 9

$\sqrt{41}$

6 & 7

Write the equation, in Standard Form, that has the following solutions:

x = 9, -8

$(x-9)(x+8)$

$-9x$

$8x$

$y = x^2 - x - 72$

Write the equation, in Standard Form, that has the following solutions:

$$x = \frac{7}{3}, -5$$

$(3x-7)(x+5)$

$3x^2 + 8x - 35$