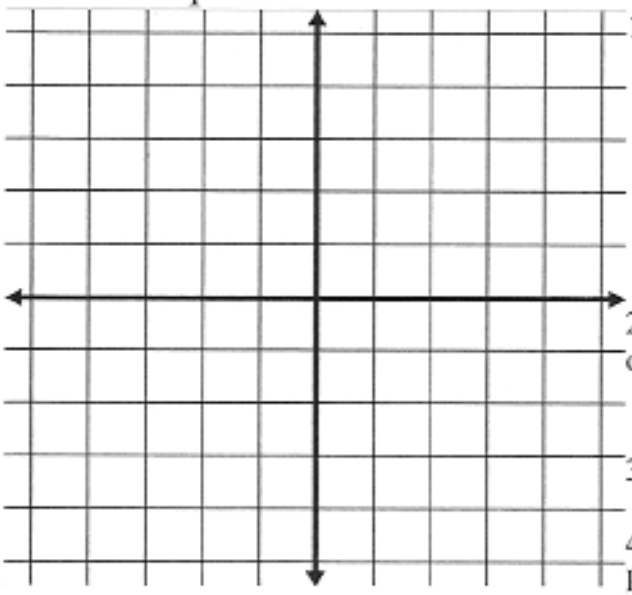
Honors Algebra I
9.4 Solving Quadratic Equations by Graphing

Name:_____
Date:_____

Warm-Up



1. Graph $y=2x+1$. And label it *line A*

At what point does the line cross the x-axis? (___,___)

This point is called the **x-intercept**.

2. Draw a line with an **x-intercept** of 3 and label it *line B* on the same grid.

3. How many times can a line cross the x-axis?

4. How many times can a parabola cross the x-axis? Explain.

Exit Slip:

When does a parabola have two solutions?

When does a parabola have one solution?

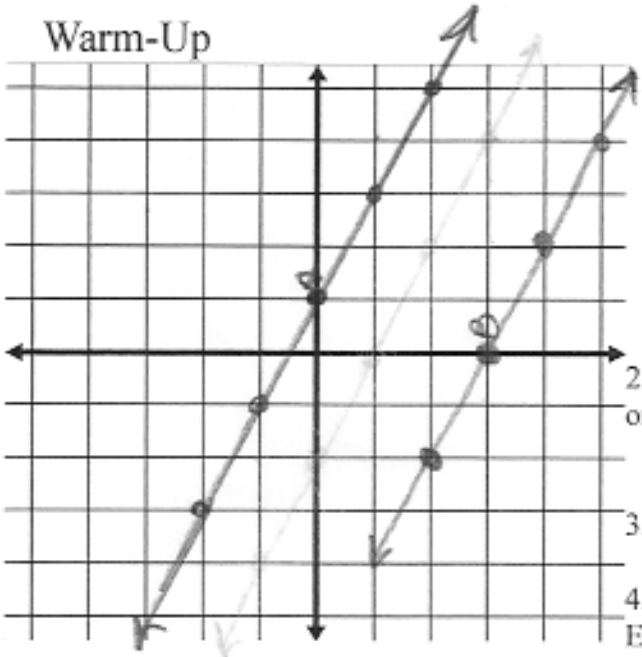
When does a parabola have zero solutions?

Remember to answer the exit slip questions and turn this sheet in before you leave class today

Honors Algebra I
9.4 Solving Quadratic Equations by Graphing

Name [redacted]
Date: 3/5/13

Warm-Up



1. Graph $y=\frac{2x}{1}+1$. And label it *line A*

At what point does the line cross the x-axis? (½ , 0)

This point is called the **x-intercept**.

2. Draw a line with an **x-intercept** of 3 and label it *line B* on the same grid.

3. How many times can a line cross the x-axis? 1

4. How many times can a parabola cross the x-axis? Explain.
0, 1, 2

Exit Slip:

When does a parabola have two solutions?
when the parabola crosses the x-axis (2 x's)

When does a parabola have one solution?
when the parabola crosses the x-axis (1 x)

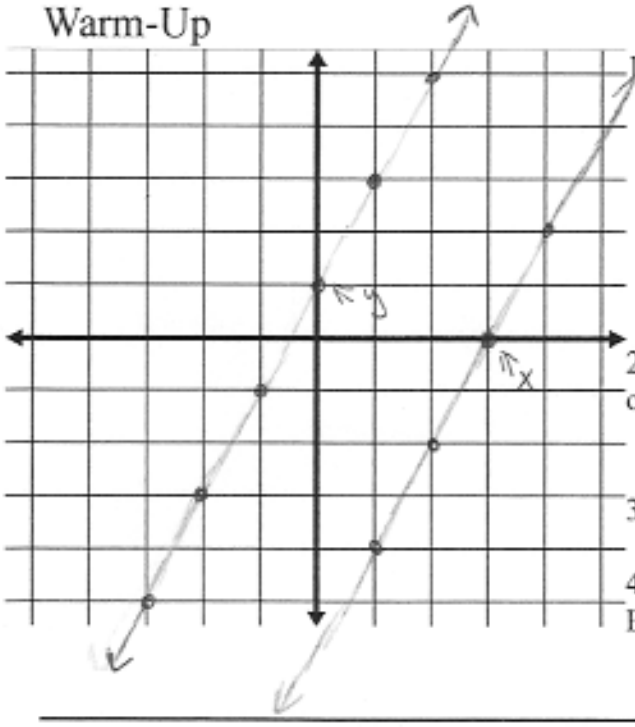
When does a parabola have zero solutions?
when it doesn't touch at all

Remember to answer the exit slip questions and turn this sheet in before you leave class today

Honors Algebra I
9.4 Solving Quadratic Equations by Graphing

Name: [redacted]

Warm-Up



1. Graph $y = 2x+1$. And label it *line A*

At what point does the line cross the x-axis? (∅ , ∅)

This point is called the **x-intercept**.

2. Draw a line with an **x-intercept** of 3 and label it *line B* on the same grid. (3,∅)

3. How many times can a line cross the x-axis? 1

4. How many times can a parabola cross the x-axis? Explain. ∅-2 its curved and has two lines goin across.

Exit Slip:

When does a parabola have two solutions?

When it touches the axis twice

When does a parabola have one solution?

When it touchs the axis once.

When does a parabola have zero solutions?

When it touches the axis at(∅,∅)
(NO Real Solotion

Remember to answer the exit slip questions and turn this sheet in before you leave class today

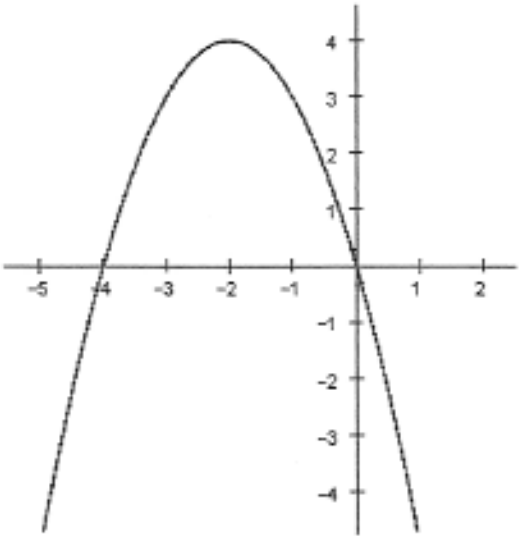
Honors Algebra I
Name: _____
Date: _____

Warm-up:

1) Solve $x^2+37=118$ algebraically.

2) Below is the graph of $y= -x^2-4x$

Vertex:_____
Axis of symmetry: _____
How many solutions? _____
x-intercepts: _____



3) Graph $y=x^2-4$ in the space below

Vertex:_____
Axis of symmetry:_____
How many solutions? _____
x-intercepts: _____

Exit Slip:

Based on this unit so far on quadratic functions, graphing parabolas, and simplifying radicals,

- What concepts are you still grappling with? (be specific)
- What concepts are starting to become clearer? (be specific)
- What can you do to better learn the material?
- What can I do to help you understand the concepts better?

Honors Algebra I
Name: [redacted]
Date: 3/8/13

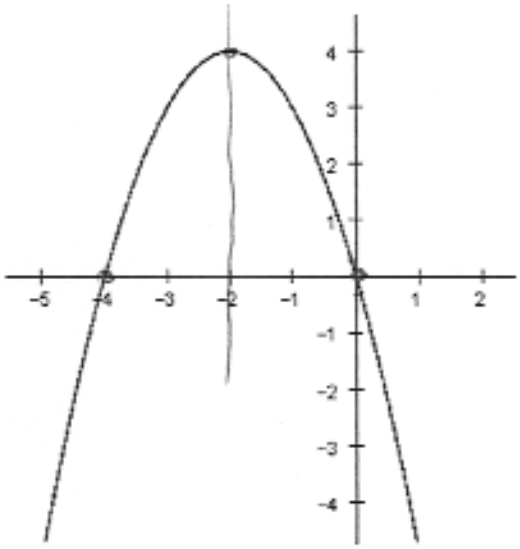
Warm-up:

1) Solve $x^2+37=118$ algebraically.

$x^2 = 81$
$x = \pm 9$

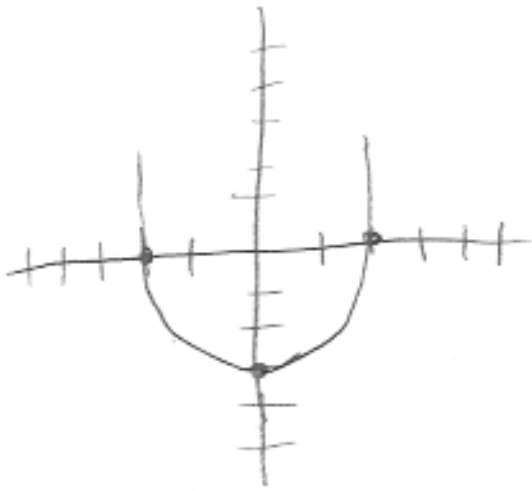
2) Below is the graph of $y= -x^2-4x$

Vertex: (-2, 4)
Axis of symmetry: (-2, 0)
How many solutions? 2
x-intercepts: (-4, 0) (0, 0)



3) Graph $y=x^2-4$ in the space below

Vertex: (0, -4)
Axis of symmetry: (0, 0)
How many solutions? 2
x-intercepts: (-2, 0) (2, 0)



Exit Slip:

Based on this unit so far on quadratic functions, graphing parabolas, and simplifying radicals,

- What concepts are you still grappling with? (be specific)
  I am still grappling with graphing parabolas + quadratic functions.
- What concepts are starting to become clearer? (be specific)
  I can simplify radicals
- What can you do to better learn the material?
  Study more, work on more examples
- What can I do to help you understand the concepts better?
  Show us more examples, go a little bit slower

Honor[redacted]
Name:
Date: 3/8/13

Warm-up:

1) Solve $x^2+37=118$ algebraically.

$-37 \quad -37$

$\sqrt{x^2} = \sqrt{81}$ $x = 9$

2) Below is the graph of $y= -x^2-4x$

Vertex: (-2, 4)

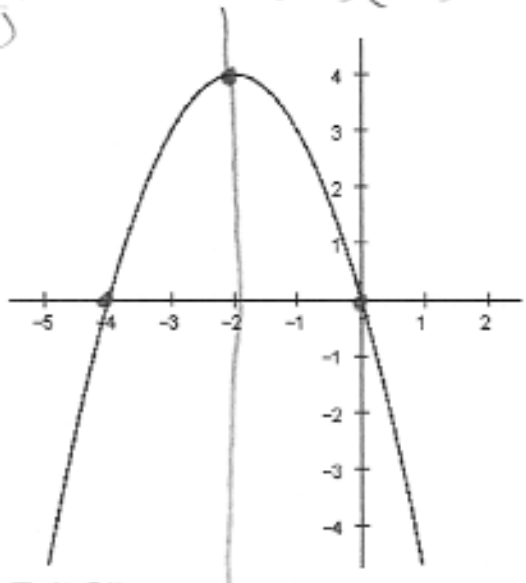
Axis of symmetry: -2

How many solutions? 2

x-intercepts: (-4, 0) (0, 0)

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

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



3) Graph $y=x^2-4$ in the space below

$y = x^2 - 4 + 0$

Vertex: (0, -4)

Axis of symmetry: 2

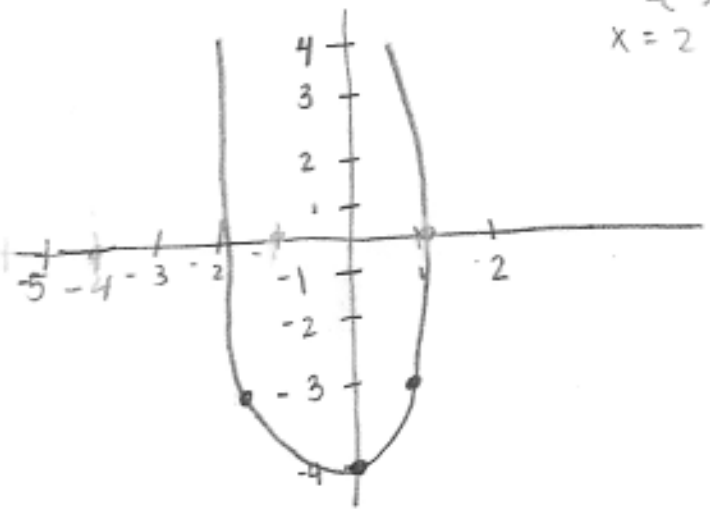
How many solutions? 2

x-intercepts: (-2, 0) (2, 0)

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

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

$x = 2$



Exit Slip:

Based on this unit so far on quadratic functions, graphing parabolas, and simplifying radicals,

- What concepts are you still grappling with? (be specific)
  finding the solutions of the parabola
- What concepts are starting to become clearer? (be specific)
  learning how to do the vertex
- What can you do to better learn the material?
  graph more parabolas
- What can I do to help you understand the concepts better?
  go slower!

Honors Algebra I
Name: [redacted]
Date: _____

Warm-up:

1) Solve $x^2+37=118$ algebraically.

$-37 \quad -37$

$\sqrt{x^2}=\sqrt{81}$ $\quad x=\pm 9$

2) Below is the graph of $y= -x^2-4x$

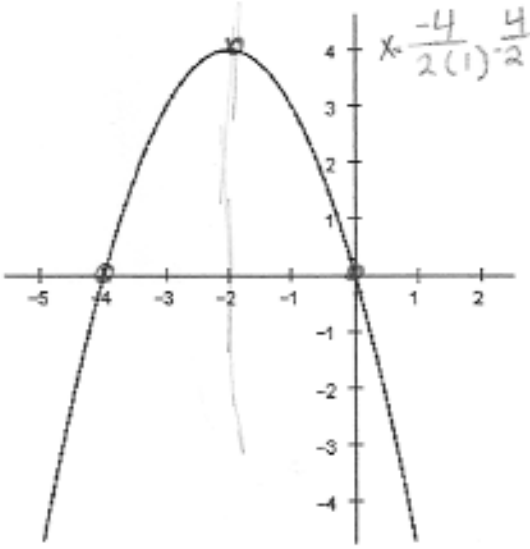
A B

Vertex: $-2,4$

Axis of symmetry: $x=-2$

How many solutions? 2

x-intercepts: $(0,0);(-4,0)$



3) Graph $y=x^2-4$ in the space below

Vertex: $0,4$

Axis of symmetry: $x=0$

How many solutions? 2

x-intercepts: $(-2,0),(2,0)$

$0=x^2-4$
$+4 \quad +4$
$\sqrt{4}=\sqrt{x^2}$
$x=2$
$(2,0)$

$x=\frac{0}{2(1)}$ $\frac{0}{2}0$

$y=0^2-4$
$y=-4$ $(0,4)$

Exit Slip:

Based on this unit so far on quadratic functions, graphing parabolas, and simplifying radicals,

- What concepts are you still grappling with? (be specific)

  none

- What concepts are starting to become clearer? (be specific)

  all of it really

- What can you do to better learn the material?

  nothing what we're doing is great.

- What can I do to help you understand the concepts better?

  Nothing

Honors Algebra I
Name: [redacted]
Date: 3.8.13

Warm-up:

1) Solve $x^2+37=118$ algebraically.

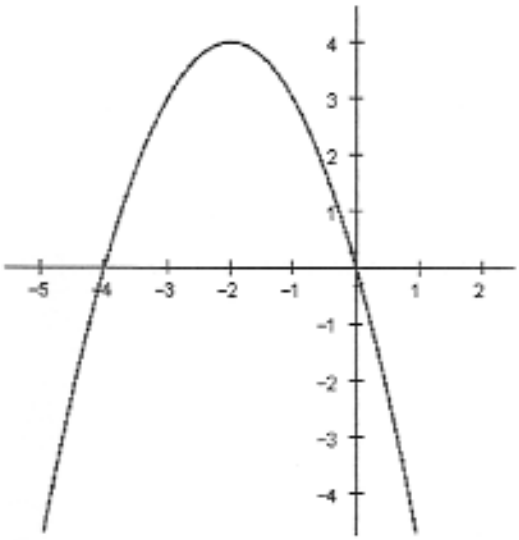
$x^2+37=118$

$\sqrt{x^2}=\sqrt{81}$ ✓

$x=\pm 9$

2) Below is the graph of $y= -x^2-4x$ $-b/2a$ $4/2(-1)$

Vertex: (2,4)
Axis of symmetry: (-2,4)
How many solutions? 2
x-intercepts: (0,0) (-4,0)



3) Graph $y=x^2-4$ in the space below $-b/2a$

Vertex: 0
Axis of symmetry: 0
How many solutions? 1
x-intercepts: (0,0)

Exit Slip:

Based on this unit so far on quadratic functions, graphing parabolas, and simplifying radicals,

- What concepts are you still grappling with? (be specific)
  making sure i put points for answers instead of numbers
- What concepts are starting to become clearer? (be specific)
  what and how to find the axis of symmetry
- What can you do to better learn the material?
  pay attention and really focus on where the teacher gets the answer from.
- What can I do to help you understand the concepts better?
  explain the material slower, and explain it more.

Honors Algebra I
Name: [redacted]
Date: 3/8/13

Warm-up:

1) Solve $x^2+37=118$ algebraically.

$-37 \quad -37$

$\sqrt{x^2} = \sqrt{81}$

$x = \pm 9$

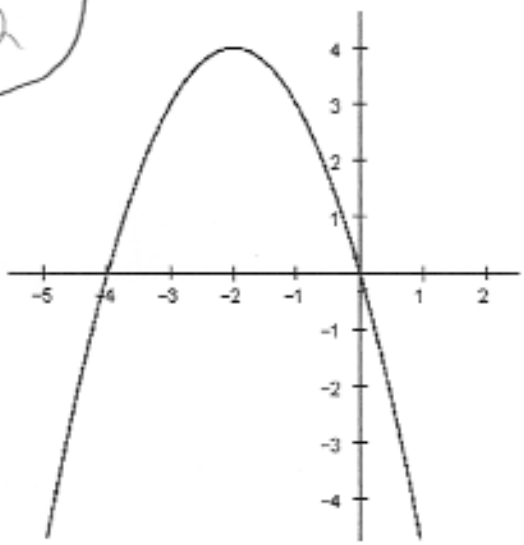
2) Below is the graph of $y=-x^2-4x$

$x = \frac{-4}{2 \cdot -1}$

$x = \frac{-4}{-2}$

$x = 2$

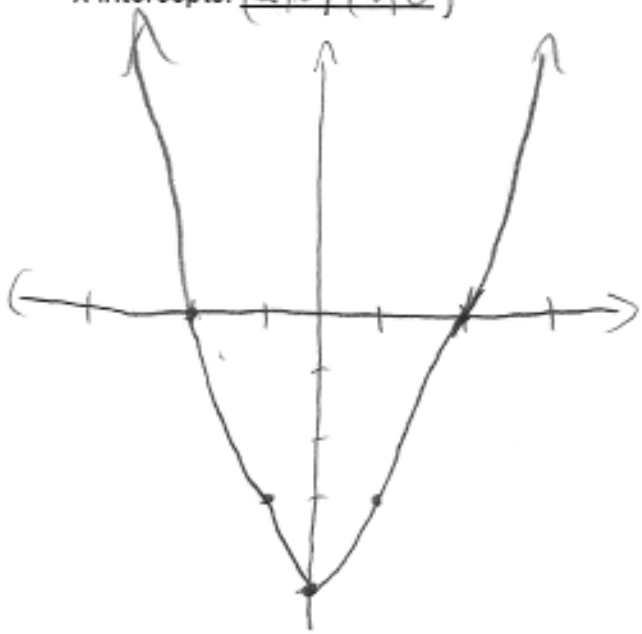
Vertex: $(-2, 4)$
Axis of symmetry: $x=-2$
How many solutions? 2
x-intercepts: $(0,0)$ $(-4,0)$



3) Graph $y=x^2-4$ in the space below

Vertex: $(0, -4)$
Axis of symmetry: $x=0$
How many solutions? 2
x-intercepts: $(2,0)$ $(-2,0)$

$x = \frac{0}{2}$



Exit Slip:

Based on this unit so far on quadratic functions, graphing parabolas, and simplifying radicals,

- What concepts are you still grappling with? (be specific)

  Vertex

- What concepts are starting to become clearer? (be specific)

  Axis of symmetry; x-intercepts

- What can you do to better learn the material?

  Study it

- What can I do to help you understand the concepts better?

  More examples

Honors Algebra I
Warm-Up

Name: _____

Remember: Turn this warm-up in before you leave class today.

*Recall that simplifying radicals mean we DO NOT want a decimal answer. There are three rules for simplifying radicals:

1. There are NO *perfect squares* besides 1 under the radical.
2. There are NO *fractions* under the radical.
3. There are NO *radicals* in the denominator of a fraction

Simplify the radicals:

1) $\frac{\sqrt{100}}{\sqrt{49}}$

2. $\frac{\sqrt{75}}{\sqrt{64}}$

3. $\sqrt{\frac{50}{10}}$

4) $\sqrt{\frac{27}{3}}$

5. $\sqrt{\frac{32}{4}}$

Did you know? There is a story about Carl Friedrich Gauss. Supposedly, when he was a little boy, his teacher asked the class to add up the numbers one through a hundred without a calculator (1+2+3 etc., all the way up to 100). The teacher wanted to get some work done, or get some sleep, or whatever. Anyway, to the teacher's annoyance, little Gauss came up to the teacher with the answer, right away saying the answer is 5050. The teacher spent the entire class period trying to figure out if he was correct. Did he just guess? Was he right?

Multiplication Properties of Exponents

Let a and b be numbers and let m and n be positive integers.

Product of Powers Property
To multiply powers having the same base, _____the exponents.

$a^m \cdot a^n =$_____ Example:

Power of a Power Property
To find a power of a power, _____the exponents.

$(a^m)^n =$_____ Example:

Power of a Product Property
To find a power of a product, find the power of each factor and multiply.

$(a \cdot b)^m =$ Example:

Goal of the lesson: Simplifying Expressions

Simplify: $3a^2bc \cdot 9a^3c$ $(4x^2y)^3 \cdot x^5$

Exit Slip: On a separate sheet of paper before you leave answer the following question: How are the expressions $x^5 \cdot x^6$ and $(x^5)^6$ different? Explain why.