Algebra II

Section 5.6 Day 2

The Quadratic Formula

Nov 7-2:36 PM

$x(x-3)-4$

x^2-3x-4

$a=1$
$b=-3$
$c=-4$

$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$

$x=\frac{3\pm\sqrt{9-4(1)(-4)}}{2(1)}$

$x=\frac{3\pm\sqrt{25}}{2}$

$x=\frac{3\pm5}{2}$

$x=\frac{3+5}{2}=\frac{8}{2}=4$

$x=\frac{3-5}{2}=\frac{-2}{2}=-1$

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Bell Ringer

What Quadrants are the solutions in?

$y \geq -2x + 3$ and $y < x - 7$

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What happens if the number under the radical is negative?????

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

imaginary

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Find the zeros of the function using the Quadratic Formula.

$f(x) = 3x^2 - x + 8$

$a=3$, $b=-1$, $c=8$

$95 = 5 \cdot 19$

$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$

$x = \frac{1 \pm \sqrt{1-4(3)(8)}}{2(3)}$

$x = \frac{1 \pm \sqrt{-95}}{6}$

$x = \frac{1 \pm i\sqrt{95}}{6}$

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Find the zeros of the function using the Quadratic Formula.

$f(x) = 4x^2 + 3x + 2$

$a=4$, $b=3$, $c=2$

$x = \frac{-3 \pm \sqrt{9-4(4)(2)}}{2(4)}$

$x = \frac{-3 \pm \sqrt{-23}}{8}$

$x = \frac{-3 \pm i\sqrt{23}}{8}$

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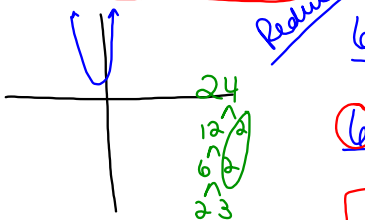
Graph the last equation. What do you notice about the graph? $f(x) = 4x^2 + 3x + 2$



$24 = 12 \cdot 2 = 6 \cdot 2 \cdot 2 = 2 \cdot 3 \cdot 2 \cdot 2$

Reduce

$\frac{6 \pm \sqrt{-24}}{2}$

$\frac{6 \pm 2i\sqrt{6}}{2}$

$3 \pm i\sqrt{6}$

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Conclusion

1. **What will always work when solving a quadratic?**
2. **What do you do if you have a negative under the radical?**
3. **What does the graph look like if there is a negative under the radical?**

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Assignment

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and review (you will have about 20 minutes in class tomorrow for review)

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