

October 27, 2015

Functions

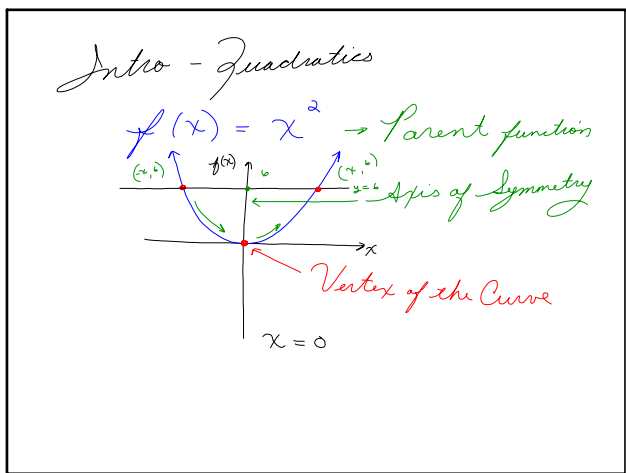
- ① Radical
- ② Linear
- ③ Quadratic
- ④ Rational

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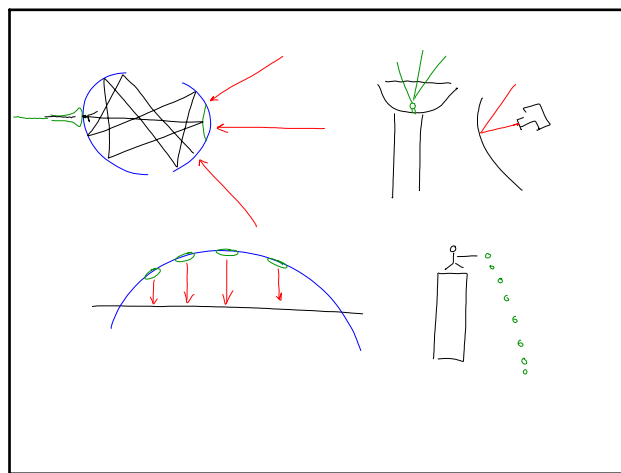
Quadratic Functions

- ① Intro
- ② Methods to Solve quadratics
- ③ Transformation Methods
- ④ Inequalities
 - * Linear
 - * Non-Linear

Oct 27-10:06 AM



Oct 27-10:10 AM



Oct 27-10:15 AM

Solving Quadratics

- ① Factor
 - * $x^2 + 12x + 35 = 0$
 $(x+7)(x+5) = 0$
 $x = -7 \ \& \ x = -5$
 - * $x^2 - 4 = 0$
 $(x+2)(x-2) = 0$
 $x = 2 \ \& \ x = -2$
- ② Square Root Property
 - $x^2 - 4 = 0$
 $\sqrt{x^2} = \pm \sqrt{4}$
 $x = \pm 2$
- ③ Completing the Square
- ④ Quadratic Formula

any quadratic

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Solving Quadratic Equations

Set one side equal to zero!

$$x^2 - 4 = 0$$

+4 +4

$$\sqrt{x^2} = \pm \sqrt{4}$$

two solutions when squaring both sides use ±

$$x = \pm 2 \quad * \text{Two Solutions}$$

ch

① $x = 2$ $(2)^2 - 4 = 0$ $4 - 4 = 0$ $0 = 0 \checkmark$	② $x = -2$ $(-2)^2 - 4 = 0$ $4 - 4 = 0$ $0 = 0 \checkmark$
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$$x^2 - 5 = 0$$

$$\sqrt{x^2} = \pm\sqrt{5}$$

$$x = \pm\sqrt{5}$$

ck

$$(-\sqrt{5})^2 - 5 = 0$$

$$(-\sqrt{5})(-\sqrt{5}) - 5 = 0$$

$$5 - 5 = 0$$

$$0 = 0 \checkmark$$

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$$(x-7)^2 - 16 = 0$$

$$\sqrt{(x-7)^2} = \pm\sqrt{16}$$

$$x-7 = \pm 4$$

$$x = \pm 4 + 7$$

$$\textcircled{1} x = 4 + 7 = 11$$

$$\textcircled{2} x = -4 + 7 = 3$$

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$$(x-2)^2 + 4 = 0$$

$$\sqrt{(x-2)^2} = \pm\sqrt{-4}$$

$$x-2 = \pm 2i$$

$$x = \pm 2i + 2$$

not in a+bi form

$$x = \boxed{2 \pm 2i}$$

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