

Quadratic Equations Model parabolas  
Real life examples: Throwing a ball  
Launching a rocket  
crater



Anything that models a u - shape or up side down u shape.



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## Ch 10.4 Solving Equations in Factored Form

Factored Form: product of 2 or more linear factors (1st power)

Zero-product property: product of two factors is zero when at least one of the factors is zero.

The number of x's tell how many solutions you can have.

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What number(s) can you plug into the equation and make the expressions = 0?

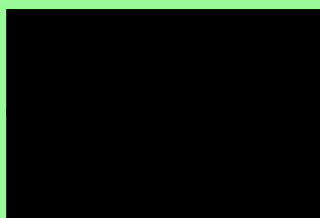
Ex 1a)  $(x - 2)(x + 3) = 0$

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Ex 1b)  $(x - 4)(2x + 1) = 0$

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Ex 1c)  $(2x + 1)(3x - 2)(x - 1) = 0$



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Try #1)  $(5x - 3)(x - 2) = 0$

Ex 2a)  $5(3x - 7)(x + 3) = 0$

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$$\text{Ex2b) } 2x(x-3)(2x-2) = 0$$

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Solving Quadratic Equations:

1. Set the equations = 0
2. Factor the polynomial
3. set each binomial = 0
4. solve each equation

$$\text{Ex3a) } x^2 + 11x + 18 = 0$$

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$$\text{Ex3b) } x^2 - 3x = 10$$

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$$\text{Ex3c) } 2x^2 - 88 = 5x$$

$$\text{Try 2) } 3x^2 - 2x = 21$$

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$$\text{Ex4a) } 5x^2 - 10x = 0$$

$$\text{Ex4b) } 8x^3 - 18x = 0$$

$$\text{Ex4c) } 2x^3 - 10x^2 + 8x = 0$$

$$\text{Try \#2. } 12x + 4 = -9x^2$$

$$\text{Ex4c) } x^3 + 3x^2 - 4x = 12$$

$$\text{Try 4. } -60x^4 + 114x^3 - 36x^2 = 0$$

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Apr 7-2:23 PM