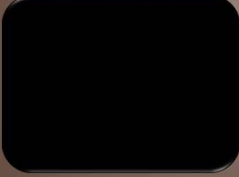



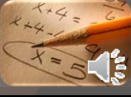




Algebra 1

Graph Quadratics: Part 2: $ax^2 + bx + c$

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

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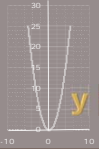
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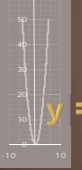
6th Grade Math	7th Grade Math	8th Grade Math	Algebra 1
Quarter 1 1. 6.1 Writing and Evaluating Expressions 2. 6.2 Properties of Addition and Subtraction 3. 6.3 Distributive Property 4. 6.4 Real-World Problems 5. 6.5 Solving Equations with Fractions 6. 6.6 Solving Equations with Addition and Subtraction 7. 6.7 Solving Algebraic Equations with Substitution and Elimination 8. 6.8 Solving Two-Step Equations	Quarter 1 1. 7.1 Integers and Number Lines 2. 7.2 Adding and Subtracting Integers 3. 7.3 Multiplying and Dividing Integers 4. 7.4 The Coordinate Plane 5. 7.5 Operations with Rational Numbers 6. 7.6 Finding Opposite Reciprocals with Addition and Subtraction 7. 7.7 Solving Algebraic Equations with Substitution and Elimination 8. 7.8 Solving Two-Step Equations	Quarter 1 1. 8.1 Solving Simple Equations 2. 8.2 Solving Equations with Variables on Both Sides 3. 8.3 Solving Equations and Inequalities 4. 8.4 Graphing Linear Equations and Functions 5. 8.5 Graphing Linear Equations with Tables 6. 8.6 Finding the Slope of a Line 7. 8.7 Graphing Linear Equations in Slope-Intercept Form 8. 8.8 Systems of Equations	Quarter 1 1. A.1 Writing and Evaluating Expressions and Equations 2. A.2 Writing Equations and Inequalities 3. A.3 Representing Functions as Tables and Graphs 4. A.4 Real Numbers 5. A.5 The Distributive Property 6. A.6 Rational and Irrational Numbers 7. A.7 Solving One-Step Equations 8. A.8 Solving Two-Step Equations

$y = ax^2 + bx + c$

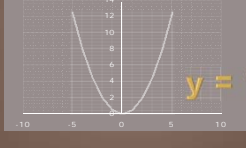
Overview



$y = 1x^2 + 0$




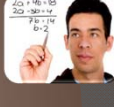


$y = 2x^2$



$y = \frac{1}{2}x^2$

$y = ax^2 + bx + c$

Graph Quadratics: Part 2 - $ax^2 + bx + c$

$y = 1x^2 + 0$

$y = -1x^2$

$y = ax^2 + c$

Graph Quadratics: Part 2 - $ax^2 + bx + c$

$y = 1x^2 + 0$

$y = x^2 + 2$

$y = x^2 - 2$

$y = ax^2 + c$

Graph Quadratics: Part 2 - $ax^2 + bx + c$

$x = \frac{-b}{2a}$ $x = \frac{-2}{2(.25)} = -4$



$y = .25(-4)^2 + 2(-4) + 1$

$y = 4 - 8 + 1 = -3$

$y = .25x^2 + 2x + 1$

$y = ax^2 + bx + c$

Graph Quadratics: Part 2 - $ax^2 + bx + c$



Find the coordinates of the vertex, and the axis of symmetry of this quadratic: $y = 3x^2 - 6x + 3$

You Try It!

$$x = \frac{-b}{2a} = \frac{-(-6)}{2(3)} = 1$$

$$y = 3(1)^2 - 6(1) + 3 = 0$$

(1, 0) x = 1


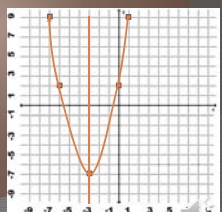
Find the coordinates of the vertex, and the axis of symmetry of this quadratic: $y = 3x^2 - 6x + 3$

You Try It!

Graph: $y = x^2 + 6x + 2$


$$x = \frac{-b}{2a} = \frac{-6}{2(1)} = -3$$


$$y = (-3)^2 + 6(-3) + 2 = -7$$

$$y = (1)^2 + 6(1) + 2 = 9$$



Graph Quadratics: Part 2 - $ax^2 + bx + c$

Graph $y = -\frac{1}{2}x^2 + 6x + 3$



You Try 


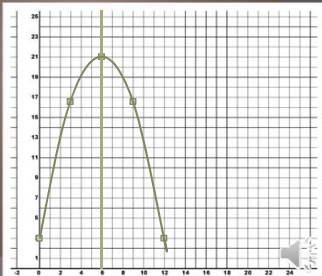
Graph $y = -\frac{1}{2}x^2 + 6x + 3$

$x = \frac{-b}{2a} = \frac{-6}{2(-\frac{1}{2})} = 6$



$y = -\frac{1}{2}(6)^2 + 6(6) + 3 = 21$

$y = -\frac{1}{2}(3)^2 + 6(3) + 3$

$y = 16.5$



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