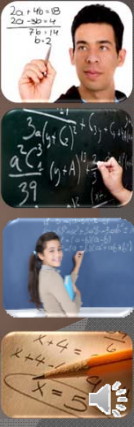
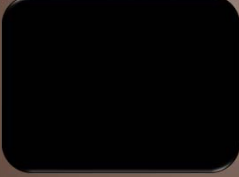


# Algebra 1

Solving Quadratic Equations by Graphing



[www.MasterMath.info](http://www.MasterMath.info)

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Overview

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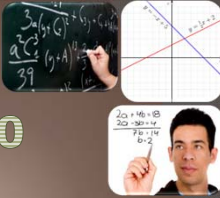
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$$x^2 - 5x + 4 = 0$$
$$(x - 4)(x - 1) = 0$$
$$(x - 4) = 0$$
$$(x - 1) = 0$$

**Solutions,  
Roots,  
Zeros**

$x = 4$  or  $1$



Solving Quadratic Equations by Graphing

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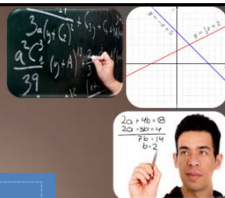
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$x^2 - 5x + 4 = 0$



$x = -b/2a$   
 $x = 5/2$   
 $y = (2.5)^2 - 5(2.5) + 4$   
 $y = -2.25$

**$x = 4$  or  $1$**

Solving Quadratic Equations by Graphing

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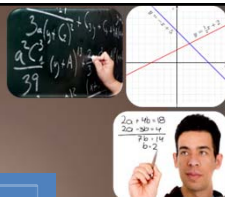
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$x^2 - 5x + 4 = 0$   
 $x = 4$  or  $1$



**Solutions,  
Roots,  
Zeros**

Solving Quadratic Equations by Graphing

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**[www.MasterMath.info](http://www.MasterMath.info)**

Find the roots of this Quadratic by graphing  
 $x^2 - 2x = 3$

You Try

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$x^2 - 2x = 3$   
 $x^2 - 2x - 3 = 0$   
 $x = -b/2a$   
 $x = 2/2 = 1$   
 $(1)^2 - 2(1) - 3 = y$   
 $-4 = y$   
 $(4)^2 - 2(4) - 3 = y$   
 $5 = y$

**Roots = -1, 3**  
 Find the roots of this Quadratic by graphing  
 $x^2 - 2x = 3$

You Try it

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$x^2 - 2x - 3$

$(x - p)(x - q) =$   
 $(x + 1)(x - 3) =$

**Roots = -1, 3**  
 Find the roots of this Quadratic by graphing  
 $x^2 - 2x = 3$

You Try it

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

$x^2 + 6x + 10 = 0$

Solving Quadratics

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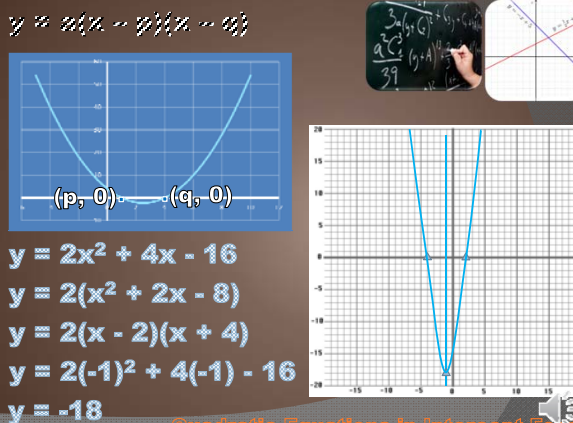
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$y = a(x-p)(x-q)$



$y = 2x^2 + 4x - 16$   
 $y = 2(x^2 + 2x - 8)$   
 $y = 2(x - 2)(x + 4)$   
 $y = 2(-1)^2 + 4(-1) - 16$   
 $y = -18$

Quadratic Equations in Intercept Form

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Please put this quadratic into Intercept Form, and determine what the zeros are:

$y = 3x^2 + 27x + 54$  You Try It

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$y = 3x^2 + 27x + 54$   
 $= 3(x^2 + 9x + 18)$   
 $= 3(x + 3)(x + 6)$

Zeros: -3 and -6

Please put this quadratic into Intercept Form, and determine what the zeros are:

$y = 3x^2 + 27x + 54$  You Try It

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