

5 Different Ways to Solve Quadratics in Standard Form

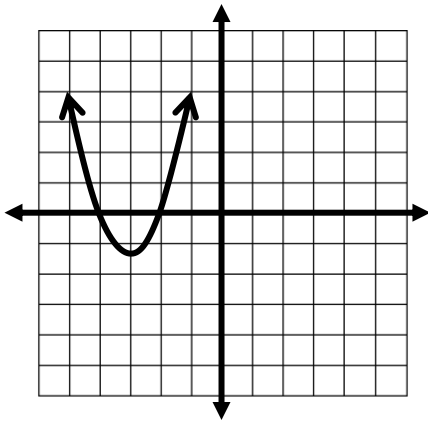
Remember that "to solve" means to find the x-intercepts.

X-intercepts are also called: _____, _____, _____

Standard Form	Vertex Form	Factored Form
$f(x) = ax^2 + bx + c$ <i>a, b, and c are real numbers</i>	$f(x) = (x - h)^2 + k$ Vertex = (h, k)	$f(x) = (x \pm m)(x \pm n)$ <i>m and n are real numbers</i>

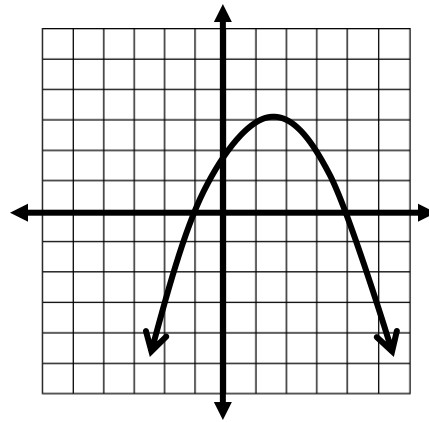
From a graph:

1.



Solutions: _____

2.



Solutions: _____

Factoring

3. $x^2 + 5x + 6 = 0$

4. $x^2 - 3x - 10 = 0$

Take Square Root of Both Sides

5. $(x + 5)^2 = 16$

6. $(x - 3)^2 = 81$

Complete the Square, then Take Square Root of Both Sides

7. $x^2 + 8x - 30 = 0$

8. $x^2 - 6x = 7$

Quadratic Formula

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

9. $x^2 + 5x + 2 = 0$

10. $x^2 - 5x - 14 = 0$

STEPS:

1. Identify a, b, and c.
2. Substitute these values into the formula.
3. Put only $(b)^2 - 4(a)(c)$ into the calculator, not the square root sign.
4. Take the square root of this value if the answer is a whole number. Otherwise, leave it as a square root.
5. Write the solution.