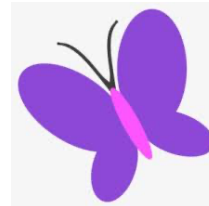


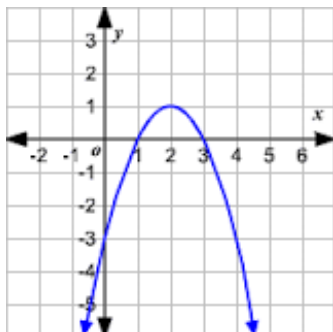
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6.1 Solving Quadratic Equations

Quadratic Equation in Standard Form: $ax^2 + bx + c = 0$

In order to solve a quadratic equation, we must make sure to put it in to standard form as shown above, and then we can find the values of x that satisfy the equations (**roots**) by **graphing** or by **factoring**. We have already done this in chapter 4.



Zeros are specific examples of **roots**, or solutions, that occur when $y = 0$.

However, we can also find roots, or solutions, for values of x that satisfy the equation when y equals another number. For example, when $y = -3$, $x = 0$ and $x = 4$. These are still roots, but they are not zeros!

Practice Problems

1) Solve each quadratic equation by factoring.

a) $-2x^2 - 9x + 5 = 0$

b) $3x(x + 2) = 2x^2 - (4 - x)$

2) A ball is thrown from the top of a cliff. Its height, h , in meters, above the ground after t seconds can be modelled by $h = -5t^2 + 21t + 120$. How long will the ball take to fall 20 m below its initial height?

