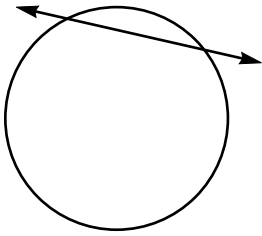
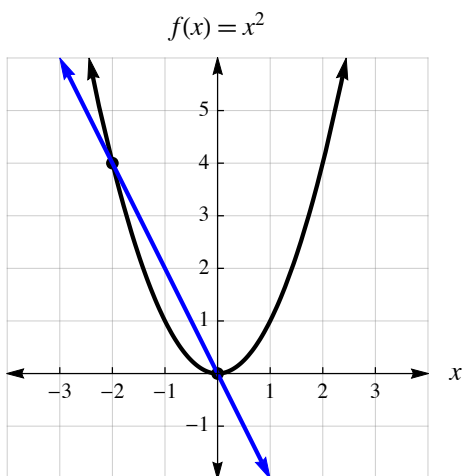


The Slope of a Secant Line

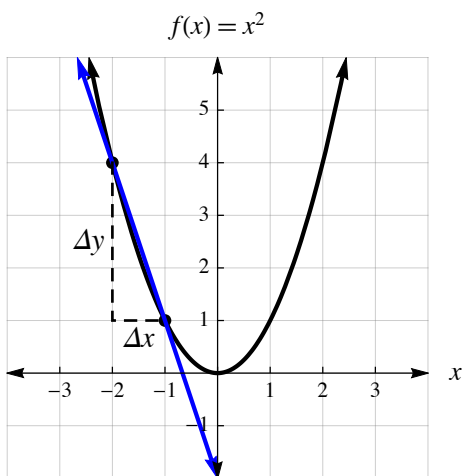
You probably first learned about secant lines when you worked with circles. Here's a secant line intersecting a circle:



A secant line is a line that intersects a curve at two points. We can also draw secant lines intersecting other types of curves, such as parabolas:



Of course, with secant lines we can draw *slope triangles* and calculate the slope of the secant line. Here's an example of a secant line that intersects the parabola at $(-2, 4)$ and $(-1, 1)$.



The symbol “ Δ ” is the “delta” symbol and it means the “change in”. So, Δx is read as “delta x ” and means “the change in x ”. In this example the change in x is

$$\Delta x = -1 - (-2) = 1$$

In other words, since the x values went from -2 to -1 , the change in x was $+1$. Since the y values went from 4

down to 1, the change in y was -3 , so $\Delta y = -3$.

The slope of the secant line is:

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} = \frac{-3}{1} = -3$$