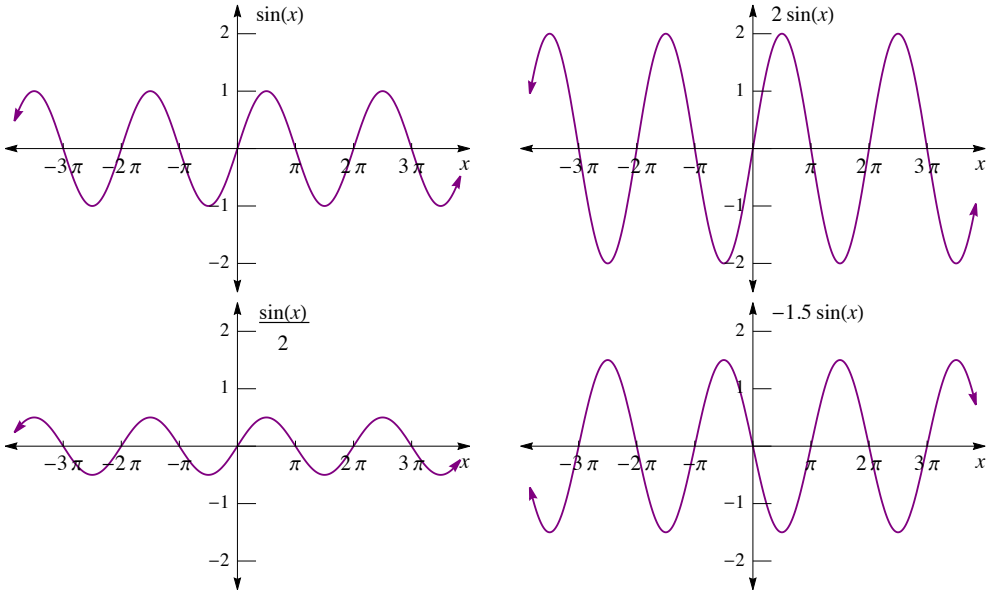
Trigonometry 27: Sin and Cos: Amplitude

A very general way of writing the sine and cosine functions is:

$$y = a\sin(b\,x - c) + k$$
$$y = a\cos(b\,x - c) + k$$

When written this way, the magnitude of the coefficient a (its absolute value: $|a|$) is referred to as the **amplitude** of the function. To see why, lets look at a a few graphs:



The amplitude is the maximum distance (always a non-negative number) from a peak or trough of the function to the x-axis.

The same pattern can be seen with the cosine function: