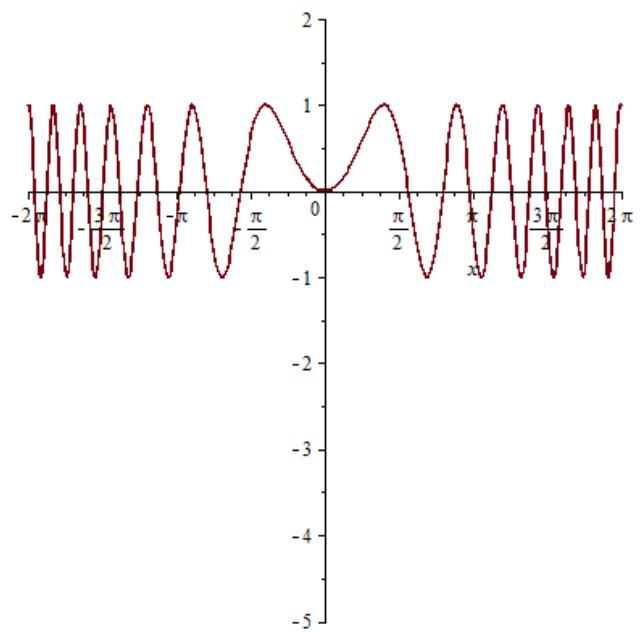


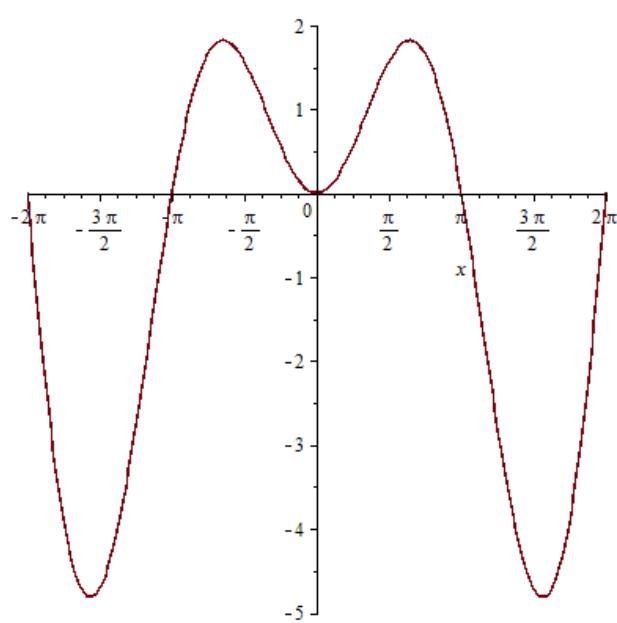
## Comparisons of Different Sine Graphs

Function	Graph
$\sin(x)$	<p>The graph shows the standard sine wave, <math>y = \sin(x)</math>, plotted over the interval <math>x \in [-2\pi, 2\pi]</math>. The x-axis is labeled with <math>-2\pi, -\frac{3\pi}{2}, -\pi, -\frac{\pi}{2}, 0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}, 2\pi</math>. The y-axis ranges from -5 to 2, with major grid lines at -5, -4, -3, -2, -1, 1, and 2. The curve passes through the x-axis at <math>x = -2\pi, -\pi, 0, \pi, 2\pi</math> and reaches a maximum value of 1 at <math>x = -\frac{\pi}{2}</math> and <math>x = \frac{\pi}{2}</math>.</p>
$\sin(\sin(x))$	<p>The graph shows the composition of the sine function, <math>y = \sin(\sin(x))</math>, plotted over the same interval <math>x \in [-2\pi, 2\pi]</math>. The x-axis labels are the same as the first graph. The y-axis ranges from -5 to 2. The curve follows the pattern of the outer sine function, but its amplitude is reduced, with local maxima at approximately 0.707 and local minima at approximately -0.707. It also exhibits vertical asymptotes at <math>x \approx \pm 1.57</math> where the inner sine function equals zero.</p>

$\sin(x^2)$



$x \sin(x)$



$\sin^2(x) = (\sin(x))^2$

