EXPLORATION

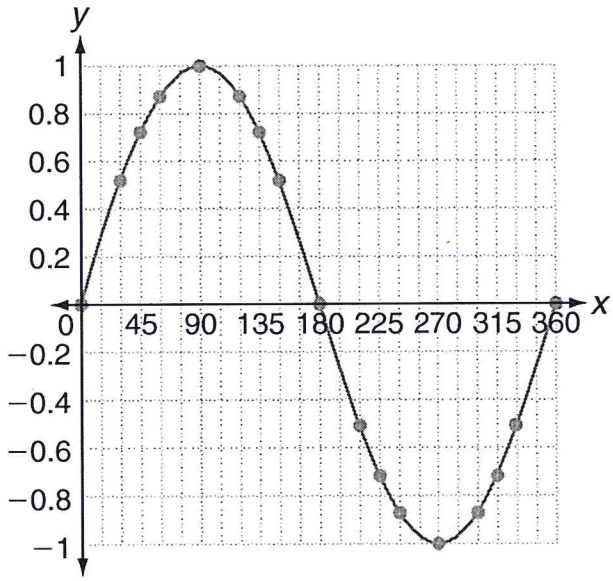
14-1 Graphs of Sine and Cosine

You can investigate the graph of the function $y = \sin x$ by making a table of values and plotting points.

1. Use your calculator to complete the table for the function $y = \sin x$. Round each y-value to the nearest hundredth if necessary.

$x(°)$	0, 360	30	45	60	90	120	135	150
y	0	0.5	0.71	0.87	1	0.87	0.71	0.5
$x(°)$	180	210	225	240	270	300	315	330
y	0	−0.5	−0.71	−0.87	−1	−0.87	−0.71	−0.5

2. Plot the points from your table on a coordinate plane like the one shown. Connect the points to form a smooth curve.



THINK AND DISCUSS

3. **Describe** the maximum and minimum values of the function.

   The maximum value is 1, and the minimum value is −1.

4. **Discuss** what will happen if you continue the graph another 360° to the right.

   The graph will repeat the same shape.