Preliminaries and Objectives

Preliminaries:

- Values of $\sin x$ and $\cos x$ from unit circle.

Objectives:

- Draw an accurate graph of $y = \sin x$ and $y = \cos x$ over several periods.
How to graph $y = \sin x$

University of Minnesota Graphs of Waves
How to graph $y = \sin x$
How to graph $y = \sin x$
How to graph $y = \cos x$

Graph of $y = \cos x$ showing values at $0^\circ, 90^\circ, 180^\circ, 270^\circ, 360^\circ$.
How to graph $y = \cos x$
How to graph $y = \cos x$
Recap

- \( y = \sin x \) has \( x \)-intercepts at \( \ldots - 2\pi, -\pi, 0, \pi, 2\pi, 3\pi, 4\pi \ldots \)

- Peaks at \( \ldots - \frac{7\pi}{2}, -\frac{3\pi}{2}, \frac{\pi}{2}, \frac{5\pi}{2}, \frac{9\pi}{2} \ldots \)

- Valleys at \( \ldots - \frac{5\pi}{2}, -\frac{\pi}{2}, \frac{3\pi}{2}, \frac{7\pi}{2}, \frac{11\pi}{2} \ldots \)

- \( y = \cos x \) has \( x \)-intercepts at \( \ldots - \frac{3\pi}{2}, -\frac{\pi}{2}, \frac{\pi}{2}, \frac{3\pi}{2}, \frac{5\pi}{2} \ldots \)

- Peaks at \( \ldots - 4\pi, -2\pi, 0, 2\pi, 4\pi, 6\pi \ldots \)

- Valleys at \( \ldots - 3\pi, -\pi, \pi, 3\pi, 5\pi \ldots \)