

Graphing Trigonometric Functions

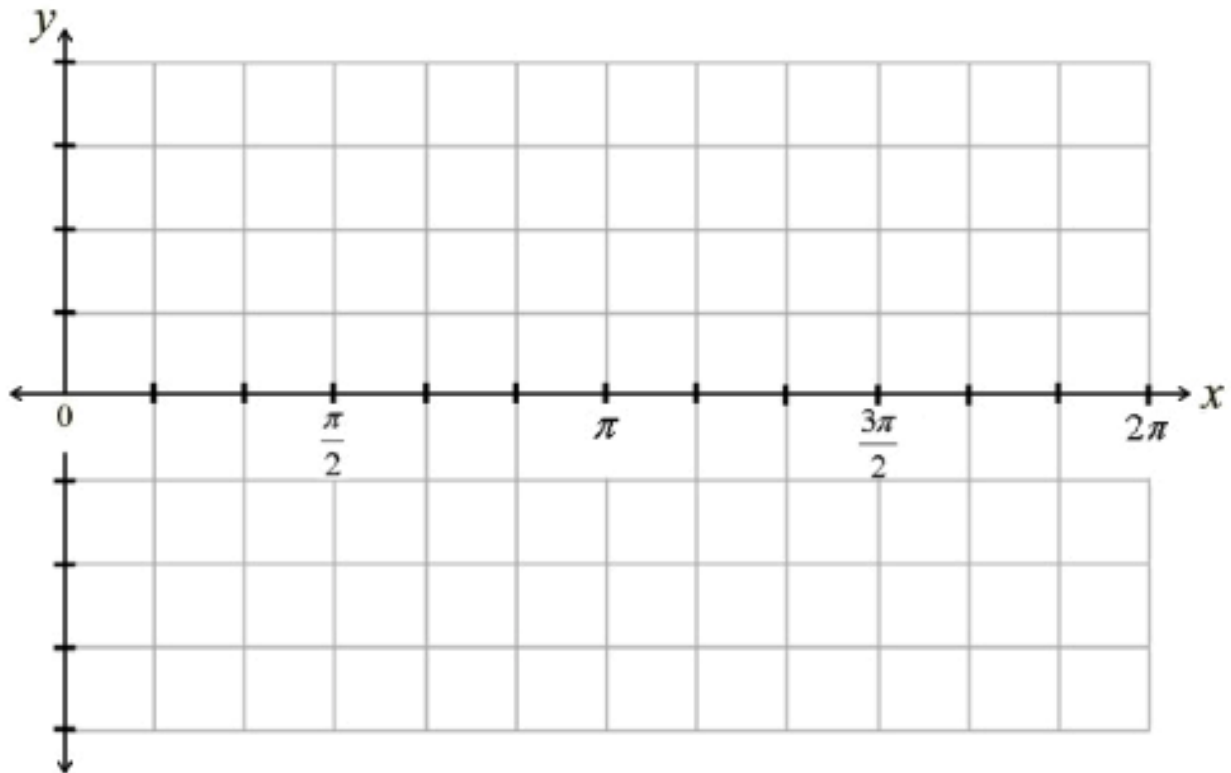
These notes are intended as a companion for section 6.4 (p. 510 – 511) in your workbook. You should also read the section for more complete explanations and additional examples.

Part A: The Graph of $y = \sin x$

Complete the tables below, then sketch a graph of $y = \sin x$ for $0 \leq x \leq 2\pi$.

x	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π
$\sin x$									

x	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	2π
$\sin x$								

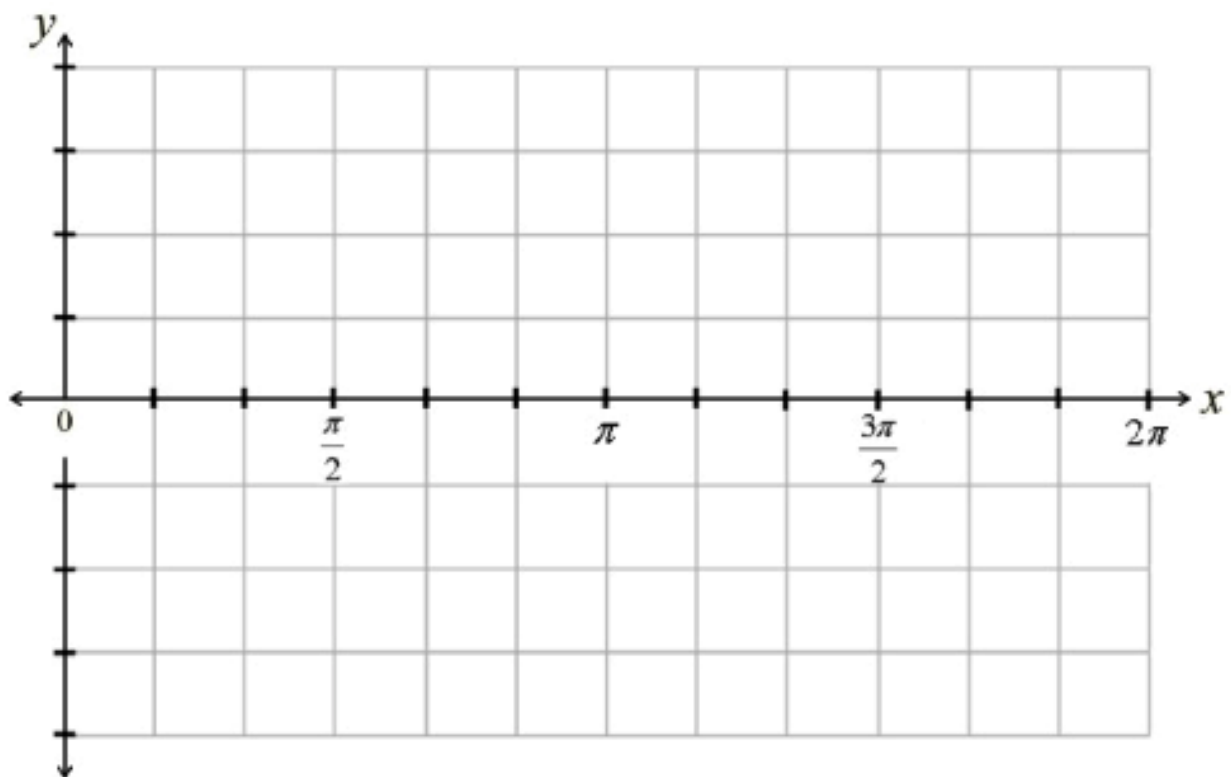


Part B: The Graph of $y = \cos x$

Complete the tables below, then sketch a graph of $y = \cos x$ for $0 \leq x \leq 2\pi$.

x	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π
$\cos x$									

x	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	2π
$\cos x$								

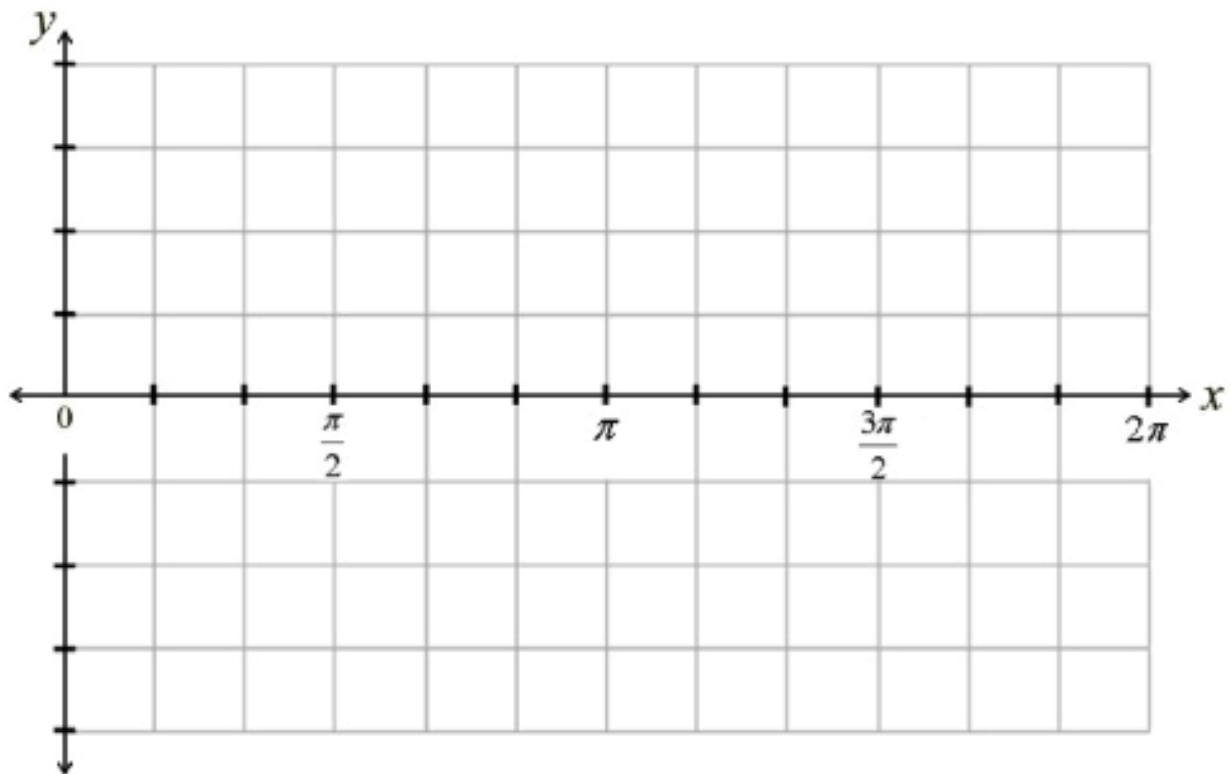


Part C: The Graph of $y = \tan x$

Complete the tables below, then sketch a graph of $y = \tan x$ for $0 \leq x \leq 2\pi$.

x	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π
$\tan x$									

x	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	2π
$\tan x$								



Part D

Explain how to extend each graph for $x > 2\pi$ and for $x < 0$.

Homework: #1 – 4 in the exercises (p. 512). Answers on p. 512.