

This week:

01: **Read** sections 5.5 and 5.6 by **Monday, 29 Aug**

02: Complete 45 minutes of **Khan Academy** related to sections 5.1-5.6 by **Friday, 2 Sept**

03: **Textbook problems**, mostly be completed in class and due **Friday, 2 Sept**

- 5.3 #69-80 all
- 5.4 #91-94 all
- 5.5 #1-45 odd
- 5.6 #1-39 odd

Test #1 - Friday, 2 September

Khan Academy exercises for section 5.1:

arc measure



multiple units word problems



arc length



convert units (metrics)



radians & degrees



convert units word problems (metrics)



radians & arc length



convert units (US customary)



complementary &
supplementary angles



convert units word problems
(US customary)



Khan Academy exercises for section 5.2:

- Trigonometric ratios in right triangles
- Solve for a side in right triangles
- Solve for an angle in right triangles
- Right triangle word problems

Khan Academy exercises for section 5.3-5.4:

- Trig values of special angles
- Use the Pythagorean identity

Khan Academy Exercises for 5.5-5.6:

- Midline of sinusoidal functions from graph
- Amplitude of sinusoidal functions from graph
- Period of sinusoidal functions from graph

- Midline of sinusoidal functions from equation
- Amplitude of sinusoidal functions from equation
- Period of sinusoidal functions from equation

- Graph sinusoidal functions

Graphs of the sine and cosine functions

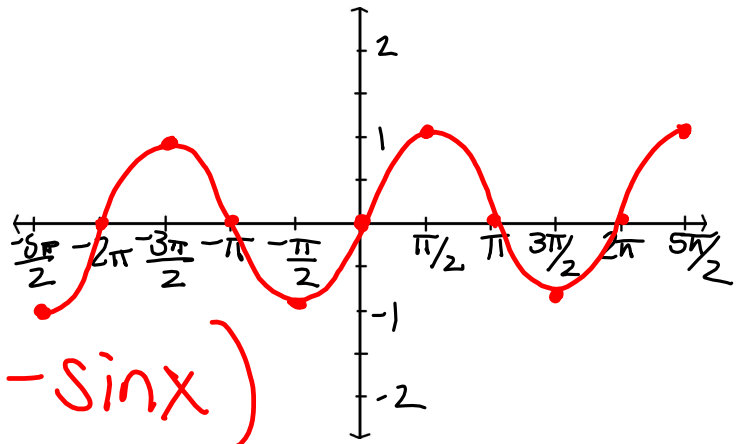
$$y = \sin x$$

domain: \mathbb{R}

range: $[-1, 1]$

period: 2π

odd ($\sin(-x) = -\sin x$)



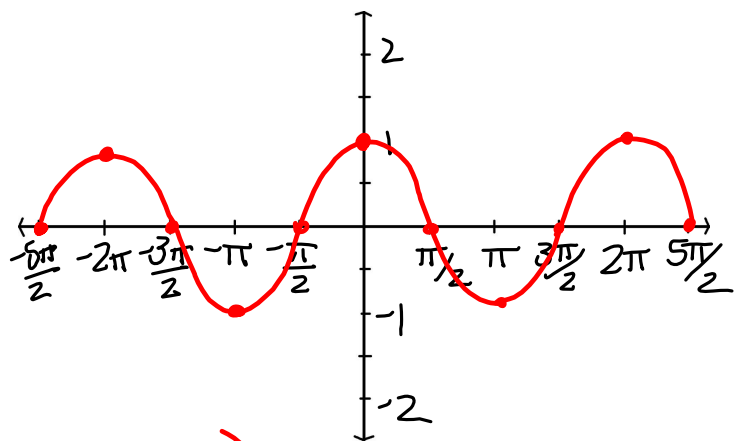
$$y = \cos x$$

domain:
 $(-\infty, \infty)$

range:
 $[-1, 1]$

period: 2π

even ($\cos(-x) = \cos x$)

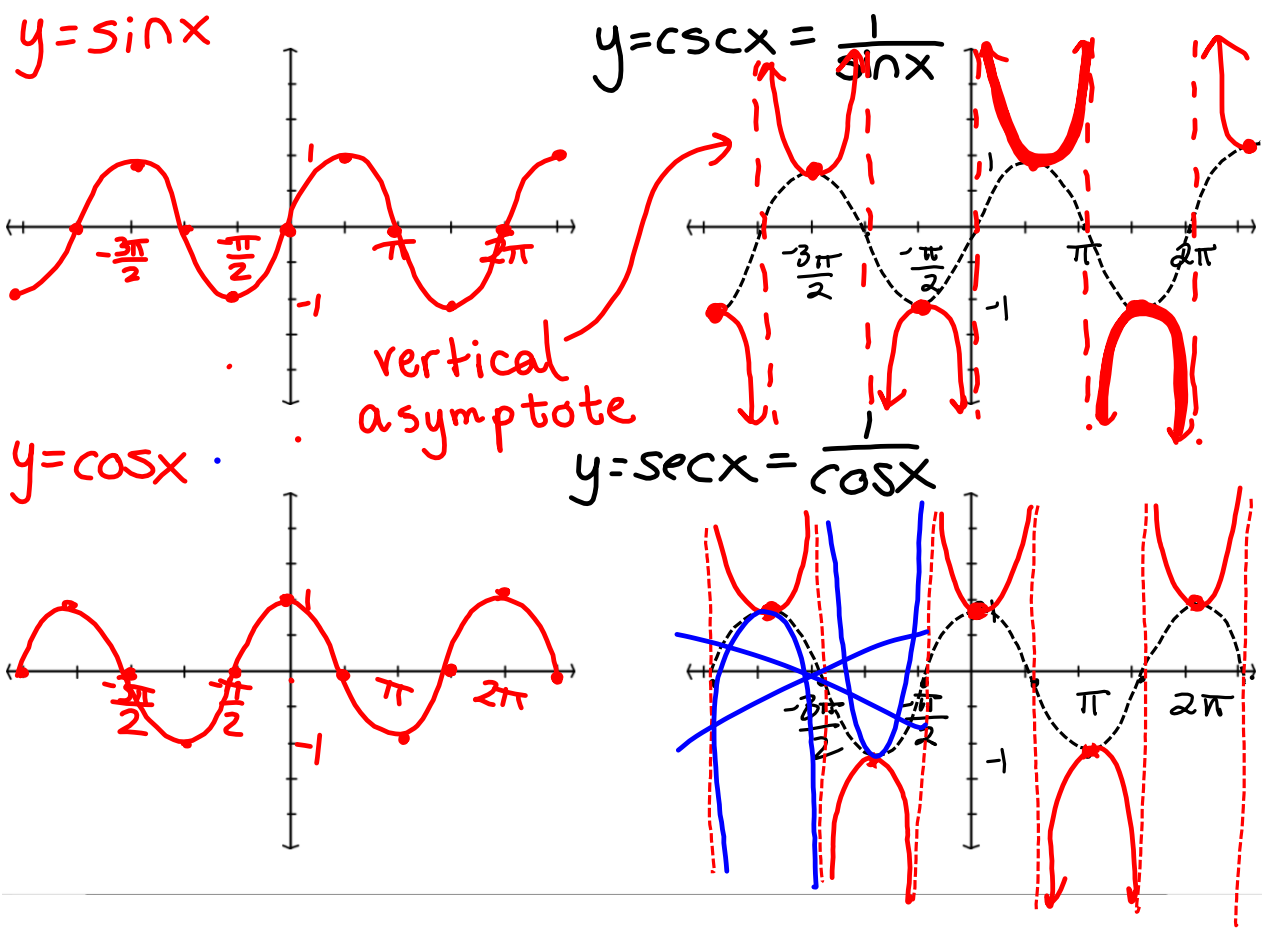


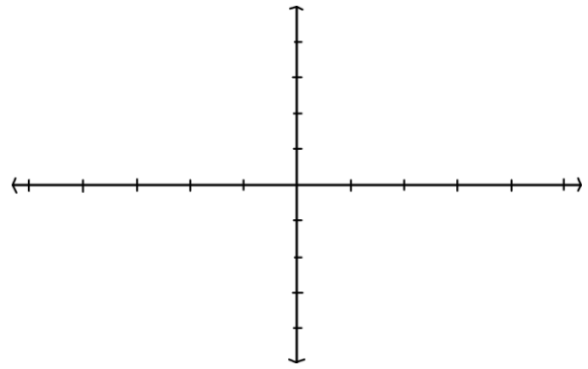
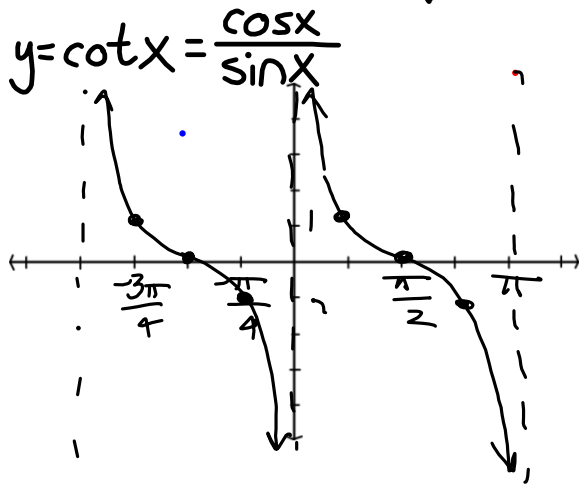
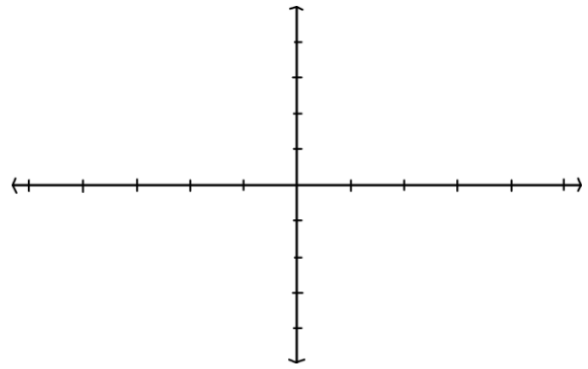
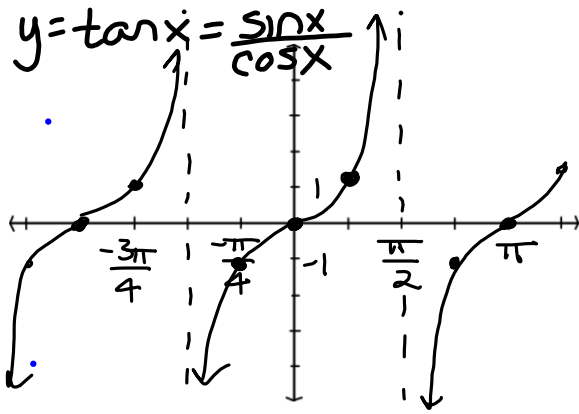
Domain/Range/Period/Graphs of the other 4 Trig functions?

Function	Domain	Range	Period
$y = \sin x$	$(-\infty, \infty)$	$[-1, 1]$	2π
$y = \cos x$	$(-\infty, \infty)$	$[-1, 1]$	2π
$y = \csc x = \frac{1}{\sin x}$ $\{x x \text{ is not an integer multiple of } \pi\}$	$(-\infty, -1] \cup [1, \infty)$	$(-\infty, -1] \cup [1, \infty)$	2π
$y = \sec x = \frac{1}{\cos x}$ $\{x x \text{ is not an odd multiple of } \frac{\pi}{2}\}$	$(-\infty, -1] \cup [1, \infty)$	$(-\infty, -1] \cup [1, \infty)$	2π
$y = \tan x = \frac{\sin x}{\cos x}$ $\{x x \text{ is not an odd multiple of } \frac{\pi}{2}\}$	$(-\infty, \infty)$	$(-\infty, \infty)$	π
$y = \cot x = \frac{\cos x}{\sin x}$ $\{x x \text{ is not an integer multiple of } \pi\}$	$(-\infty, \infty)$	$(-\infty, \infty)$	π

Why?

$\frac{1}{\sin x}$





$$y = f(x)$$

Goal:

$$y = a f(bx + c) + d$$

$$y = f(x) + g(x)$$