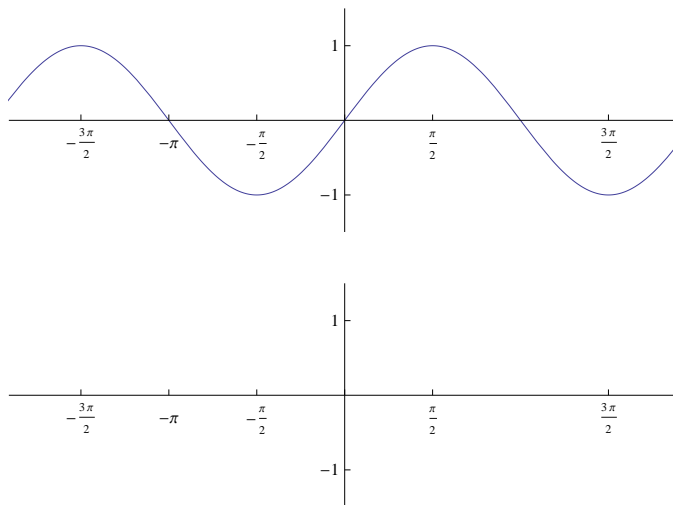# MATH 6 – RECITATION WORKSHEET 9
20 APRIL 2012

Today we'll look at the derivatives of trig functions more. First, let's look at the derivatives of $\sin x$ and $\cos x$ graphically.

Here is the graph $y = \sin x$. On the blank set of axes below, sketch the graph of y', the derivative of $\sin x$.

From this sketch, what is the derivative of $\sin x$?

Now let's do the same thing for $\cos x$. Using the graph below, sketch the derivative of $\cos x$.
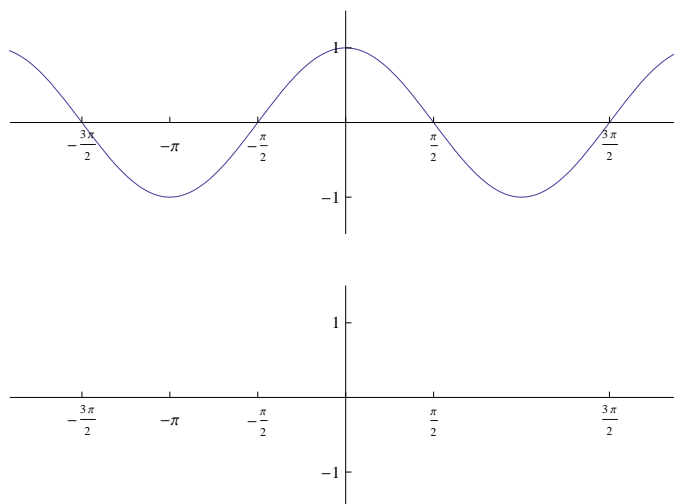
From your sketch, what is the derivative of $\cos x$?

Now, using the derivatives of $\sin x$ and $\cos x$, we can find the derivatives of $\tan x$ and $\sec x$ with the quotient rule.

1. Find $(\tan x)' = \left(\frac{\sin x}{\cos x}\right)'$.

2. Find $(\sec x)'$.