**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**A.P. Calculus 1, Mrs. Sulkes**

**November 9th, 2012 Inverse Trig. & Derivatives**

**Overview of the Inverse Trig. Functions**

Complete the table. You may use books or search on the internet to help you complete the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Inverse Trig. Function & Its Graph | Domain | Range | Evaluate |
|  |  |  | = |
|  |  |  | = |
|  |  |  | =  = |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Derivative of the Inverse Trig. Functions**

Please watch the video on the derivative of Inverse Sine. You can find the link to the video on my webpage <https://sites.google.com/site/apcalculus1duty/> or you can go directly to <http://www.youtube.com/watch?v=k_66Y7oIx34&feature=plcp> . As you view the video, answer the following questions.

1. The Derivative of 
2. Rewrite the function.

x

1

1. Take the derivative, implicitly and solve for .

y

1. Rewrite in terms of just x.
2. Using the derivative for  find  Stop the video.

**Now it’s your turn!**

Answer each of the following.

1. Show that the .
2. Show that the .
3. Show that the 
4. Why do you think that the formula for the derivative of has an absolute value around the x?

Practice Problems: Find the derivative of each of the following.

1. cos -1(3x)
2. sec -1(ex)
3. ln (sin -1 (x))