Name: _____ Date: _____ IB Math A&A SL

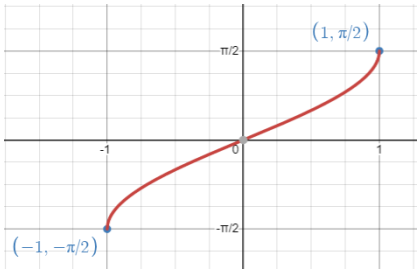
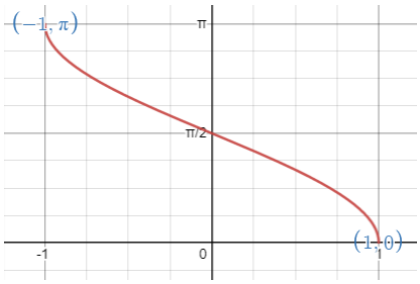
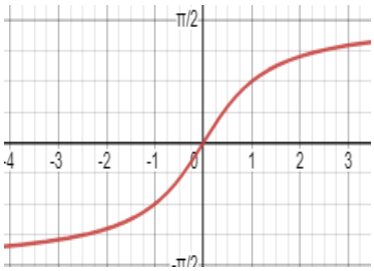
Lesson 6.2B – Inverse Trigonometric Functions

I. Warm-Up

1. Find all values of θ in the interval $[0,2\pi)$ such that:

a. $\sin\theta = \frac{1}{2}$ b. $\cos\theta = -\frac{\sqrt{2}}{2}$ c. $\tan\theta = \frac{\sqrt{3}}{3}$

II. Inverse Trigonometric Functions

$y = \arcsin x$ or $y = \sin^{-1} x$	$y = \arccos x$ or $y = \cos^{-1} x$	$y = \arctan x$ or $y = \tan^{-1} x$
		
Domain:	Domain:	Domain:
Range:	Range:	Range:

III. Working Backwards

Evaluate the following values without using a calculator.

2. $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right) =$ $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right) =$ $\arctan\left(\sqrt{3}\right) =$

3. $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right) =$ $\arccos\left(-\frac{\sqrt{3}}{2}\right) =$ $\arctan\left(\sqrt{3}\right) =$

IV. Practice

4. $\arcsin\left(\frac{\sqrt{3}}{2}\right) =$ $\sin^{-1}\left(-\frac{1}{2}\right) =$ $\arctan(1) =$

5. $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right) =$ $\sin^{-1}\left(-\frac{1}{2}\right) =$ $\arctan\left(\sqrt{3}\right) =$

6. $\arctan\left(\frac{\sqrt{3}}{3}\right) =$ $\arcsin(1) =$ $\cos^{-1}(-1) =$

Draw a triangle and evaluate the following.

7. $\sin(\cos^{-1}(\frac{3}{5})) =$

8. $\sec(\arcsin(-\frac{5}{7})) =$

9. $\tan\left(arctan\left(\frac{\sqrt{3}}{3}\right)\right) =$

10. If $f(x) = \cos x$ and $g(x) = \tan^{-1}(x)$. Find $f \circ g(-1)$