Senior Analysis Name _____

Inverse Trig Lecture 35

Evaluate the following

1. $\sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$
2. $\cos^{-1}\left(-\frac{1}{2}\right)$
3. $\tan^{-1}\left(\frac{\sqrt{3}}{3}\right)$
4. $\cot^{-1}\left(-\frac{\sqrt{3}}{3}\right)$
5. $\sin^{-1}(-1)$
6. $\csc^{-1}(1)$
7. $\cot^{-1}(0)$
8. $\sec^{-1}(2)$
9. $\csc^{-1}\left(-\frac{2\sqrt{3}}{3}\right)$
10. $\cot\left(\sin^{-1}\left(\frac{1}{2}\right)\right)$
11. $\sec\left(\cos^{-1}(0)\right)$
12. $\tan\left(\operatorname{arc}\sec\left(\frac{\sqrt{85}}{2}\right)\right)$
13. $\sin\left(\tan^{-1}(2)+\sin^{-1}\left(\frac{1}{4}\right)\right)$

Senior Analysis Name _____

Inverse Trig Derivatives Lecture 36

Find $\frac{dy}{dx}$ for the following

1. $y = \sin^{-1}(x^2)$
2. $y = \tan^{-1}(x^2)$
3. $y = \sec^{-1}(x^2)$
4. $y = \sin^{-1}\sqrt{x}$

5 $y = \tan^{-1}\sqrt{x}$

6. $y = \sec^{-1}\sqrt{x}$
7. $y = \sin^{-1}\frac{1}{x}$
8. $y = \tan^{-1}\frac{1}{x}$
9. $y = \sec^{-1}\frac{1}{x}$
10. Find the equation of the line tangent to the graph of $y = \tan x$ at $\left(\frac{\pi}{4}, 1\right)$
11. Find the equation of the line tangent to the graph of $y = \tan^{-1} x$ at $\left(1, \frac{\pi}{4}\right)$