AP Calculus
3.8 Worksheet

All work must be shown in this course for full credit. Unsupported answers may receive NO credit.

1. Find the derivative of $h(x) = x\sec^{-1}(3x)$

2. Find the derivative of $f(x) = x\sqrt{1-x^2} + \cos^{-1}(x^3)$

3. Find an equation for the line tangent to the graph of $y = \tan x$ at the point $\left(\frac{\pi}{4}, 1\right)$.

4. Find an equation for the line tangent to the graph of $y = \tan^{-1} x$ at the point $\left(1, \frac{\pi}{4}\right)$.

5. Find $\left(f^{-1}\right)'(2)$ if $f(x)=x^3+2x-1$.

6. Find $\left(f^{-1}\right)'(6)$ if $f(x)=x^3-\frac{4}{6}$.

7. Complete the following questions from the textbook: p170 #1, 5, 12, 13, 15, 20, 23, 25