

Present neatly. Justify for full credit. No Calculators.

Name _____ Score _____ ~10 minutes / A

1.

Find all values of x for which the line that is tangent to $y = 3x - \tan x$ is parallel to the line $y - x = 2$.

2.

Suppose that $f(x) = M \tan x + N \sec x$ for some constants M and N . If $f(\pi/4) = 2$ and $f'(\pi/4) = 0$, find an equation for the tangent line to $y = f(x)$ at $x = 0$.

Present neatly. Justify for full credit. No Calculators.

Name _____ Score _____ ~10 minutes / F

1.

Suppose that $f(x) = M \sin x + N \cos x$ for some constants M and N . If $f(\pi/4) = 3$ and $f'(\pi/4) = 1$, find an equation for the tangent line to $y = f(x)$ at $x = 3\pi/4$.

2.

Suppose that $f'(x) = 2x \cdot f(x)$ and $f(2) = 5$.

(a) Find $g'(\pi/3)$ if $g(x) = f(\sec x)$.

(b) Find $h'(2)$ if $h(x) = [f(x)/(x - 1)]^4$.