

Name: _____
AP Calc: Trig Derivatives Homework

Date: _____
Ms. Loughran

In 1- 5, find $f'(x)$.

1. $f(x) = 2 \cos x - 3 \sin x$

2. $f(x) = \frac{\sin x}{x}$

3. $f(x) = x^3 \sin x - 5 \cos x$

4. $f(x) = \sec x - \sqrt{2} \tan x$

5. $f(x) = \sin^2 x + \cos^2 x$

6. If $y = x \cos x$, find $\frac{d^2y}{dx^2}$.

7. Find all points in the interval $[-2\pi, 2\pi]$ at which the graph of f has a horizontal tangent line.

(a) $f(x) = x + \cos x$

(b) $y = \tan x$

8. If $f(x) = x^{-3} + \frac{1}{x^7}$, find $f'(x)$.

9. Given $f(x) = (x-1)(x-5)^3$, find all the values of x at which the graph of $f(x)$ has a horizontal tangent line.

p. 168 – 169 #s 43, 60, 63 and Quick Quiz # 1