

Name \_\_\_\_\_

- No calculators allowed.
- Show sufficient work to justify each answer.
- You have 15 minutes for this quiz.

1. (3 points each) Differentiate the following functions.

(a)  $h = \frac{\cot x}{x^5}$

(b)  $v(x) = x^3 e^x \cos x$

2. (4 points) Find the equation for any line which is tangent to the graph of

$$y = 10 + 6x - 3 \tan x$$

and perpendicular to the line  $x + 2y = 8$ .