

Name _____

- No calculators allowed.
- Show sufficient work to justify each answer.
- You have 12 minutes for this quiz.

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

(a) $g(x) = \sec(x^3 + 10x)$

(b) $f(\theta) = e^{2\theta} \cos 5\theta$

2. (4 points) One of the points on the graph of $f(x) = e^{-5x}$ has the property that the line tangent to the curve at that point is perpendicular to the line $y = 5x + 3$. Find in simplified form the y -coordinate for this point.