

QUIZ 7 - MATH 112

Thursday, April 4

YOUR NAME: \_\_\_\_\_

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Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [6 points] A moving object has velocity equation  $v(t) = 8(3 - e^{0.05t})$  in meters per second where  $t$  is the time into its orbit in seconds.

(a) Find the initial velocity of the object.

(b) Find the time at which the object is at rest (i.e., has zero velocity).

(c) Find an equation for the acceleration  $a(t)$  of the object.

2. [6 points] Find an equation for the tangent line to the graph of

$$f(x) = 3e^{2x} + x \ln x$$

at  $x = 1$ . Please do not use decimals.