**Math 220 (section AD?)** **Quiz 5** **Fall 2016**

**Name** _____

- You have 20 minutes
- No calculators
- Show sufficient work

1. (3 points) Compute the first derivative $v'(t)$ for the given function.

$$v(t) = \sin^4\left(\ln\left(t^8 + 1\right)\right)$$

2. (2 points) Compute the second derivative $h''(x)$ for the given function.

$$h(x) = e^{\tan(x)}$$

3. (3 points) Find the equation of the line tangent to the given curve at the point $(1, 2)$.

$$x^3y + 2xy^3 = 18$$

4. (2 points) Compute $\dfrac{dy}{dx}$ for the given function. Write your answer completely in terms of $x$.

$$y = (2x+1)^{\arctan(x)}$$