Math 220 (section AD?) **Quiz 5** **Spring 2015**

Name _____

- You have 15 minutes
- No calculators
- Show sufficient work

1. (3 points) Given $g(t) = \arctan\left(t^5\right)$, find its second derivative $g''(t)$.

2. (2 points) Compute $w'(x)$ given that $w(x) = \sin\left(\ln\left(x^8 + 5x^2 + 2\right)\right)$.

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

$$\left(2x + y^2\right)^3 = 3x^2y + 2$$

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

$$y = \left(x^4 + 2\right)^{\tan x}$$