Present neatly. Justify for full credit. No Calculators.

Name _____   Score _____   ~10 minutes / A

1. Find the first derivative of the given function[6 points]

a)

$$y = \sqrt{1 + \sqrt{1 + \sqrt{x}}}$$

b)

$$y = \sec(\sqrt{t^2 - 9})$$

2. [4 points]

Compute the second derivative of $\sin(g(x))$ at $x = 2$, assuming that $g(2) = \frac{\pi}{4}, g'(2) = 5,$ and $g''(2) = 3.$

Present neatly. Justify for full credit. No Calculators.

Name _____   Score _____   ~10 minutes / F

1. Find the first derivative of the given function [6 points]

a)

$$y = \sqrt{\sqrt{x+1}+1}$$

b)

$$y = \cot^7(x^5)$$

2. Calculate:

$$\frac{d}{dpenguin}\left(\tan^2\left(\frac{penguin}{penguin+k}\right)\right)$$ [4 points]