

232 Quiz 3

September 16, 2011

Section: _____**Name:** _____*Work individually. You may use your Notebooks. No technology or other material allowed.*

1. What is the initial form of each of the following limits?
(Circle one answer per line. DO NOT SOLVE THE LIMITS.)

$$\lim_{x \rightarrow 0^+} \frac{1 - \ln x}{x^2} \quad \frac{0}{0} \quad \frac{\infty}{0} \quad \frac{0}{\infty} \quad \frac{\infty}{\infty}$$

$$\lim_{x \rightarrow \infty} e^{-x} \ln x \quad 0 \cdot 0 \quad 0 \cdot \infty \quad \infty \cdot 0 \quad \infty \cdot \infty$$

$$\lim_{x \rightarrow 1} (\ln x)^{x^2-1} \quad 0^0 \quad 0^\infty \quad \infty^0 \quad \infty^\infty$$

2. For each limit form below, determine whether the form is indeterminate, or whether it always approaches 0, 1, or ∞ . (Circle one answer per line.)

$$\frac{\infty - \infty}{3} \quad \text{must approach 0} \quad \text{must approach 1} \quad \text{must approach } \infty \quad \text{indeterminate}$$

$$0^0 \quad \text{must approach 0} \quad \text{must approach 1} \quad \text{must approach } \infty \quad \text{indeterminate}$$

$$0^{-\infty} \quad \text{must approach 0} \quad \text{must approach 1} \quad \text{must approach } \infty \quad \text{indeterminate}$$

3. Determine whether each of the following trigonometric values is positive, negative, zero, or undefined. (Circle one answer per line.)

$$\tan\left(-\frac{3\pi}{8}\right) \quad \text{positive} \quad \text{negative} \quad \text{zero} \quad \text{undefined}$$

$$\csc 0 \quad \text{positive} \quad \text{negative} \quad \text{zero} \quad \text{undefined}$$

$$\cos \frac{17\pi}{5} \quad \text{positive} \quad \text{negative} \quad \text{zero} \quad \text{undefined}$$

4. Fill in the blanks to complete the definition:

Given any angle θ , the number $\sin \theta$ is the _____ of the point

where the _____ edge of θ meets the _____.