Calculus I (MAC 2311)
Practice Test 2 Time: 30 minutes

Write your answer for each question in the corresponding box. Only the answer in the box will be graded. Neatly do the work to support your answer in the blank space provided. Each question is worth 1 point. Note: Use of any calculator will be considered as academic dishonesty.

Name: _____

Section and NID/PID: _____

1. Find the domain of the function $f(x) = \dfrac{1}{x^2 - 1} + 5$.

2. Classify $y = x^e$ as a power function, root function, polynomial, rational function, algebraic function, trigonometric function, exponential function, or logarithmic function. State all that apply.

3. Find the zeros/roots of the function $\sin(1/x)$.

4. Obtain the infinite limit: $\lim_{x \to 6^-} \dfrac{4}{x - 6}$.

5. Given $\lim_{x \to 0} \dfrac{f(x)}{x^2} = 5$, determine $\lim_{x \to 0} f(x)$ (if it exists).

6. Find the limit, if it exists. $\lim_{x\to 0^-}(\frac{2}{x}-\frac{2}{|x|})$

7. If $f(x)$ is odd, then is $x^2 f(x)$ even or odd or neither?

8. Obtain the limit, if it exists: $\lim_{t\to -6}\dfrac{t^2-36}{2t^2+13t+6}$.

9. If a ball is thrown in the air with a velocity 34 ft/s, its height in feet t seconds later is given by $y = 34t - 16t^2$. Find the average velocity for the time period beginning when $t = 2$ and lasting until 0.5 second (Be careful about the unit).

10. Solve the equation: $\log_5(nx) - 5 = b$