NAME:_____ **DATE: 08/30/2017**

ASSIGNMENT: Limits

DIRECTIONS: The limit describes the output of a function as it approaches a certain input value. How do you read a limit?

$\lim_{x \to \infty} \frac{1}{x}$ **This limit asks us to find the value of the function as x approaches a number (usually ∞). To test, input large numbers for "x" until you can be reasonably certain of the limit. In this question, input "10," "100," and "1,000." We go from 0.1, to 0.01, to 0.001. As "x" increases, the function gets smaller and smaller. The output approaches 0, so the answer here is 0.**

1.) $\lim_{x \to \infty} \frac{2100}{x}$

A: 0 **B: 1** **C: ∞**

D: –∞ **E: 2100** **F: –2100**

2.) $\lim_{x \to -3} 4x - 8$

A: 4 **B: –3** **C: –20**

D: ∞ **E: –∞** **F: –8**

3.) $\lim_{x \to \infty} -x$

A: 0 **B: 1** **C: ∞**

D: –∞ **E: –1** **F: ∞²**

4.) $\lim_{x \to -\infty} 4x - 8$

A: 4 **B: –3** **C: –20**

D: ∞ **E: –∞** **F: –8**

5.) $\lim_{x \to \infty} \frac{-3x + 4}{x - 2}$

A: 0 **B: 1** **C: ∞**

D: –∞ **E: –3** **F: 3**

6.) $\lim_{x \to -\infty} \frac{4x - 8}{3x^2 + 1}$

A: 0 **B: –3** **C: 4/3**

D: ∞ **E: –∞** **F: –8**

7.) $\lim_{x \to \infty} 3x^3 - 5000x^2$

A: 0 **B: 1** **C: ∞**

D: –∞ **E: –3** **F: 3**

8.) $\lim_{x \to 0^+} \frac{8}{x}$

A: –1 **B: 1** **C: 0**

D: ∞ **E: –∞** **F: 8**

9.) $\lim_{x \to \infty} \frac{10 - \cos x}{x + 3}$

A: ∞ **B: –∞** **C: 0** **D: π** **E: 10/3**

NAME:_____ **DATE: 08/30/2017**

Multiple choice assignments do not have answer keys. I will guide you to the correct solution in tutorials. I'm in my room at 7:30am every day barring unforeseen circumstances.