Quiz #4

NAME: ______________________________________________________

1. State the formal definition of: \( \lim_{x \to 4} g(x) = 9 \)

2. Compute the EXACT slope of the curve, \( f(x) = 3x^2 \) at \( x = 1 \).

3. Find the equation of the tangent line to the graph of, \( f(x) = 3x^2 \) at \( x = 1 \).

4. Compute accurate to 2 decimal places using numerical or graphical methods:
   \( \lim_{x \to 3} \frac{2^x - 8}{x - 3} \)  
   Show any calculations or graphs that you use.

5. Compute the EXACT limit: \( \lim_{x \to 2} \frac{\sqrt{x^2 + 5} - 3}{x - 2} \)