Pre-Calculus 2Sem Unit 3 Quiz (practice test)

1. In the following function, in what domain interval is the local MINIMUM?

$$f(x) = x^2(x - 8)$$

2. In the following function, in what domain interval is the local MAXIMUM?

$$f(x) = x^3 + 5x^2 + 6x$$

3. In what graphical feature do the one-sided limits not even exist?

4. In what graphical feature does the limit of the function as x approaches c equal the value of the function at x equals c ?

5. Evaluate the following limit.

$$\lim_{x \to 0} \frac{x + 3}{x - 3}$$

6. Evaluate the following limit.

$$\lim_{x \to 3} \frac{x^2 - 9}{x^2 + 2x - 15}$$

7. What is the root of the following rational function?

$$f(x) = \frac{x + 4}{x^2 - 16}$$

8. What is the vertical asymptote of the following rational function?

$$f(x) = \frac{x^2 - 2x}{x^2 - 4}$$

9. What is the horizontal asymptote of the following rational function?

$$f(x) = \frac{5 - x}{x^2 - 25}$$

10. What is the horizontal asymptote of the following rational function?

$$f(x) = \frac{2 - 5x}{10 + 2x}$$