

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Learning Goal 4.2**

The Mean Value Theorem and L'Hospital's Rule

**More Questions**

1. Evaluate.

a. 
$$\lim_{x \rightarrow \pi^-} \frac{\sin x}{1 - \cos x}$$

c. 
$$\lim_{x \rightarrow \infty} \frac{1 - x}{2x}$$

e. 
$$\lim_{x \rightarrow \pi} \frac{x^2 - \pi^2}{\sin x}$$

g. 
$$\lim_{x \rightarrow 0} \frac{\sec x - 1}{\sin x}$$

b. 
$$\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3}$$

d. 
$$\lim_{x \rightarrow \infty} \frac{1 - x^2}{2x}$$

f. 
$$\lim_{x \rightarrow \infty} \frac{2x^2 - 3x + 7}{x^2 + 47x + 1}$$

h. 
$$\lim_{x \rightarrow 0^+} \frac{1/x^2}{\ln x}$$