

Assignment

Date _____ Period _____

Evaluate each limit.

1) $\lim_{x \rightarrow 3} \frac{\sqrt{x+6} - 3}{x-3}$

2) $\lim_{x \rightarrow 9} \frac{\sqrt{x} - 3}{x-9}$

3) $\lim_{x \rightarrow 1} \frac{x-1}{\sqrt{x}-1}$

4) $\lim_{x \rightarrow 0} \frac{x}{\frac{1}{1+x} - 1}$

5) $\lim_{x \rightarrow 2} \frac{\sqrt{x-1} - 1}{x-2}$

6) $\lim_{x \rightarrow -3} \frac{x-3}{x^2 + 11x + 28}$

7) $\lim_{x \rightarrow -3} \frac{x^2 + 4x - 5}{x+5}$

8) $\lim_{x \rightarrow \frac{\pi}{3}} \cos(x)$

9) $\lim_{x \rightarrow 0} \frac{\sin x}{x}$

10) $\lim_{x \rightarrow 0} \frac{1 - \sin\left(\frac{\pi}{2} - x\right)}{x}$

11) $\lim_{x \rightarrow \frac{\pi}{2}} \cot(2x)$

12) $\lim_{x \rightarrow -3} \frac{x+3}{x^2 + 5x + 6}$

$$13) \lim_{x \rightarrow -1} \frac{x+1}{x^2-2x-3}$$

$$14) \lim_{x \rightarrow -3} \frac{x}{\frac{1}{3+x} - \frac{1}{3}}$$

$$15) \lim_{x \rightarrow 3} \frac{x-3}{\sqrt{x-2}-1}$$

$$16) \lim_{x \rightarrow 0} \frac{\cos\left(\frac{3\pi}{2} + x\right)}{x}$$

$$17) \lim_{x \rightarrow 0} \frac{\sin(3x)}{4x}$$