

Directions: Plug in to evaluate.	
1) $\lim_{x \rightarrow 5} \left(\frac{x+3}{x^2-15} \right) =$	2) $\lim_{x \rightarrow \frac{1}{2}} 3x^2(2x-1) =$
3) $\lim_{x \rightarrow 1} (x^3 + 3x^2 - 2x - 17) =$	4) $\lim_{x \rightarrow -4} (x+5)^{17} =$
5) $\lim_{x \rightarrow 2} \frac{x^2+5x+6}{x+2} =$	6) $\lim_{x \rightarrow -2} (x-6)^{\frac{2}{3}} =$
7) $\lim_{x \rightarrow -2} \sqrt{x+3} =$	8) $\lim_{x \rightarrow 0} e^x \cos x =$
9) $\lim_{x \rightarrow \frac{\pi}{2}} \ln(\sin x) =$	10) $\lim_{x \rightarrow \pi} e^{\cos x} =$
11) Let $f(x) = \begin{cases} x^2 - 5, & x \leq 3 \\ x + 2, & x > 3 \end{cases}$	12) Let $g(x) = \begin{cases} 3x - 5, & x \leq 1 \\ -3x + 1, & x > 1 \end{cases}$
a) $\lim_{x \rightarrow 3^-} f(x) =$	a) $\lim_{x \rightarrow 1^-} g(x) =$
b) $\lim_{x \rightarrow 3^+} f(x) =$	b) $\lim_{x \rightarrow 1^+} g(x) =$
c) $\lim_{x \rightarrow 3} f(x) =$	c) $\lim_{x \rightarrow 1} g(x) =$
d) $f(3) =$	d) $g(1) =$

Each of the following will have the indeterminate form so you will (1) factor, (2) cancel, and (3) plug in.

$$13) \lim_{x \rightarrow 3} \left(\frac{x^2 - 2x - 3}{x - 3} \right) =$$

$$14) \lim_{x \rightarrow 6} \left(\frac{x - 6}{x^2 - 4x - 12} \right) =$$

$$15) \lim_{x \rightarrow -7} \left(\frac{x + 7}{x^2 - 49} \right) =$$

$$16) \lim_{x \rightarrow 0} \left(\frac{2x^6 + 6x^3}{4x^5 + 3x^3} \right) =$$

$$17) \lim_{x \rightarrow 0} \left(\frac{5x^4 + 8x^2}{3x^4 - 16x^2} \right) =$$

$$18) \lim_{x \rightarrow 0} \left(\frac{3x^2 + x}{5x} \right) =$$