

Name: _____

MA 2310: Quiz 9

1. 4.7:

(a) $\lim_{x \rightarrow 3} \frac{x^2 - 2x + 9}{x^2 - 9}$

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

(c) $\lim_{x \rightarrow \pi} \frac{\sin(x)}{x - \pi}$

(d) $\lim_{x \rightarrow 0} \frac{4 \sin(5x)}{3x}$

(e) $\lim_{x \rightarrow 0} \frac{\sin(x) - x + \frac{1}{3}x^3}{x^5}$

(f) $\lim_{x \rightarrow \infty} \frac{x^3 + 1}{e^x}$

(g) $\lim_{x \rightarrow \infty} \frac{3x + \sqrt{x} + 1}{x}$

(h) $\lim_{x \rightarrow 0} \frac{\tan(x)}{x}$

(i) $\lim_{x \rightarrow 0} x^x$

(j) $\lim_{x \rightarrow 0} (1 + 3x)^{\frac{1}{x}}$

(k) $\lim_{x \rightarrow 0} (1 - 3x)^{\frac{1}{x}}$

(l) $\lim_{x \rightarrow 0} (1 - 3x^3)^{\frac{1}{x^2}}$

(m) $\lim_{x \rightarrow 0} (1 + \sin(x))^{\frac{1}{x}}$