

NAME: _____

- (1) Evaluate the following limits, if they exist. Some of the limits are infinite. If the limit does not exist, explain why not. SHOW ALL APPROPRIATE WORK!

(a) $\lim_{x \rightarrow 2} \frac{x^2 + x - 6}{x^2 - 4}$

(b) $\lim_{h \rightarrow 0} \frac{(h+2)(-h+3) - 6}{h}$

(c) $\lim_{x \rightarrow \pi} \frac{x^6 - 2}{x^2}$

(d) $\lim_{x \rightarrow 2^+} \frac{-5\sqrt{2x+4}}{(x-2)(x+4)}$

- (2) It is a fact that $\lim_{x \rightarrow 2} \frac{2x^2 + x}{x - 1} = 10$. I want the y values to be within .1 of 10. This is possible if the x values are within _____ of 2.