

Exam 1 Review Problems, 3

1. Find each of the limits below. If a limit does not exist, even as an infinite quantity, briefly explain why this is the case.

(a) $\lim_{h \rightarrow 0} \frac{\frac{1}{x+h} - \frac{1}{x}}{h}$

(b) $\lim_{a \rightarrow 2} \frac{a^2 - 4}{a - 2}$

(c) $\lim_{t \rightarrow 3} \frac{\sqrt{t} - \sqrt{3}}{t - 3}$