

EE1002

Tutorial 2

1. Evaluate the limits of the following functions:

(a) $\lim_{t \rightarrow 9} \frac{9 - t}{3 - \sqrt{t}}$

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

(c) $\lim_{x \rightarrow -\infty} \frac{1 - x - x^2}{2x^2 - 7}$

(d) $\lim_{x \rightarrow \infty} (\sqrt{9x^2 + x} - 3x)$

(e) $\lim_{x \rightarrow \infty} \frac{x + 2}{\sqrt{9x^2 + 1}}$

(f) $\lim_{x \rightarrow -\infty} (x^4 + x^5)$

2. Given $f(x) = \sqrt{x}$, evaluate $\lim_{h \rightarrow 0} \frac{f(a + h) - f(a)}{h}$