# Homework 4

Using only the definition, prove the following limits

(a) $\lim_{x \to 3} 2x = 6$

(b) $\lim_{x \to 3} \frac{1}{x} = \frac{1}{3}$

(c) $\lim_{x \to -1} x^2 - 3x + 2 = 6$

(d) $\lim_{x \to c} \sqrt{x} = \sqrt{c}$, where $c > 0$

(e) $\lim_{x \to 1} \frac{x^2 - x + 1}{x + 1} = \frac{1}{2}$

(f) $\lim_{x \to 8} \sqrt[3]{x} = 2$.