

1. Find the following limits:

(a)  $\lim_{x \rightarrow -1} (1 - 2x)$ .

(b)  $\lim_{t \rightarrow 3} (x^2 + t^2 + 1)$ .

(c)  $\lim_{x \rightarrow -4} \frac{x^2 - 16}{x + 4}$ .

(d)  $\lim_{s \rightarrow -7} \frac{(x + 7)^4}{x + 7}$ .

2. Let  $f(x) = x^2 - x$ . For what values of  $x$  is  $|f(x) - 3| < \frac{1}{2}$ .

3. Prove that  $\lim_{x \rightarrow 0} 2x = 0$ .