

Q2

1. 36

(a) $\lim_{x \rightarrow c^+} f(x) = L$ if

$$\forall \varepsilon > 0, \exists \delta > 0 \text{ s.t. } \underline{0 < x < c + \delta} \Rightarrow |f(x) - L| < \varepsilon$$

(b) Given $\varepsilon > 0$

$$\text{take } \delta = \varepsilon^2$$

$$\text{For } 0 < x < \delta, |\sqrt{x} - 0| = \sqrt{x} < \sqrt{\delta} = \varepsilon$$

$$\text{Hence } \lim_{x \rightarrow 0^+} \sqrt{x} = 0$$