1. (5 points) (Definition) A function $f$ is continuous at an interior point $c$ of its domain if

$$\lim_{x \to c} f(x) = f(c).$$

2. (5 points) (Intermediate Value Theorem) Let $f$ be a continuous function on the interval $[a, b]$. Let $y_0$ be any value between $f(a)$ and $f(b)$. Then there exists a $c$ between $a$ and $b$ such that $f(c) = y_0$. 

**Solution:** Let $f$ be a continuous function on the interval $[a, b]$. Let $y_0$ be any value between $f(a)$ and $f(b)$. Then there exists a $c$ between $a$ and $b$ such that $f(c) = y_0$. 