Definition: For $f, g : \mathbb{R} \to \mathbb{R}$, we say “$f$ is in big-O of $g$”, denoted $f \in O(g)$, if there exists $c > 0$ and $x_0$ such that $\forall x \geq x_0$, we have that $|f(x)| \leq c|g(x)|$.

Definition: For $f, g : \mathbb{R} \to \mathbb{R}$, we say “$f$ is in big-Omega of $g$”, denoted $f \in \Omega(g)$, if and only if $g = O(f)$.

Definition: For $f, g : \mathbb{R} \to \mathbb{R}$, we say “$f$ is in big-Theta of $g$”, denoted $f \in \Theta(g)$, if and only if $f = O(g)$ and $g = O(f)$. 