
(a) For statements 1 and 2 determine if the statement is true or false (explain your reasoning).
(b) Negate statements 1, 2 and 3.

1. For every $x \in \mathbb{N}$ there exists $y \in \mathbb{N}$ such that $y = 2x$.
2. There exists $x \in \mathbb{N}$ such that for every $y \in \mathbb{N}$ $y = 2x$.
3. For every $\epsilon > 0$ there is a $\delta > 0$ such that for all $x, y \in \mathbb{R}$, if $|x - y| < \epsilon$ then $|f(x) - f(y)| < \delta$.