1. Find the limit if it exists, or show that the limit does not exist.

\[
\lim_{(x,y) \to (0,0)} \frac{2x}{2x + 3y}.
\]

2. Find the limit if it exists, or show that the limit does not exist.

\[
\lim_{(x,y) \to (0,0)} \frac{x^5}{x^2 + y^2}.
\]