1. (5 points) The average rate of change of \( y = f(x) \) with respect to \( x \) over the interval \([x_1, x_2]\) is

\[
\frac{\Delta y}{\Delta x} = \frac{f(x_2) - f(x_1)}{x_2 - x_1}.
\]

2. (5 points) Compute the average rate of change for \( y = f(x) \) shown below on the interval \([-2, 0]\).

\[
\frac{\Delta y}{\Delta x} = \frac{f(x_2) - f(x_1)}{x_2 - x_1} = \frac{f(0) - f(-2)}{0 - (-2)} = \frac{-1 - 0}{0 - (-2)} = \frac{1}{2}.
\]