

Let $y = f(x) = x^2 + 1$.

- (a) Find the slope of the secant line from $(2, f(2))$ to $(3, f(3))$.
- (b) Find the slope of the secant line from $(2, f(2))$ to $(2.5, f(2.5))$.
- (c) Find the slope of the secant line from $(2, f(2))$ to $(2.1, f(2.1))$.
- (d) Let h be any number not equal to 0. Find the slope of the secant line from $(2, f(2))$ to $(2 + h, f(2 + h))$. This will depend on h .
- (e) What does your answer in (c) seem to approach as h approaches 0?