

2. Let $f(x) = x^2 - 3$.

a. Find the slope of the secant line at $x = 1$ and $x = 2$.

b. Find the equation of the secant line at $x = 1$ and $x = 2$.

c. Find the slope of the tangent line at $x = 2$. (Use any of the three methods.)

d. Find the equation of the tangent line at $x = 2$.

e. Find the equation of the normal line at $x = 2$.