

3.8-Higher Derivatives

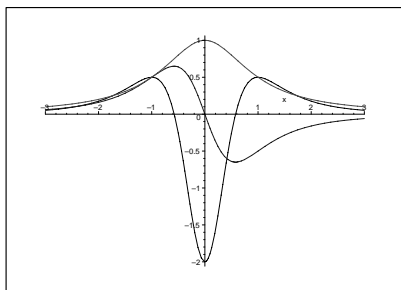
Examples:

Find the first and second derivatives of the following functions:

a) $f(x) = \frac{1}{x^2 + 1}$

b) $y = \sin^2 x$

The graph of f , f' , and f'' are shown below. Label each graph correctly and explain your reasoning.



Given $f(x) = \frac{1}{x}$, find a formula for the n th derivative $f^{(n)}(x)$.