Section 3.2: The Product and Quotient Rules

(1) In this section, we learn the product and quotient rules. Write out the formula for each rule and then explain them in your own words.

(2) Do you need to product rule to compute the derivative of $f(x) = 3x^2$? Explain your reasoning.

(3) Do you need to quotient rule to compute the derivative of $f(x) = \dfrac{3x^2+1}{4}$? Explain your reasoning.

(4) Find the derivative of $f(x) = (x^2 - 3x)(x + 2)$ both with and without using the product rule.

(5) Find the derivative of $f(x) = \dfrac{2x^2 + \sqrt{x} + 1}{x}$ both with and without using the quotient rule.

Extra Practice in Book: 3.2: Derivative Rules (3-30) until comfortable with all rules. 31, 35, 41, 42, 44, 45, 49, 51,