



Quiz 3.4 – Products of Functions

1. (1 pt) [alfredLibrary/AUCI/chapter3/lesson4/quiz/product0pet.pg](#)

If $h(x) = (4 + 7x + 7x^2)(-7x + 5x^5 - 5x^7)$ then $h(x) = f(x)g(x)$ where

$f =$ _____

and

$g =$ _____

Using the product rule

$h'(x) =$ _____ * _____ + _____ * _____

2. (1 pt) [alfredLibrary/AUCI/chapter3/lesson4/quiz/product3pet.pg](#)

According to the product rule, if $y = x^6\sqrt{x^2 + 5x + 10}$,

then $y' =$ _____

(Don't forget to use the chain rule when you differentiate the radical factor.)

3. (1 pt) [alfredLibrary/AUCI/chapter3/lesson4/quiz/product2pet.pg](#)

Let $f(x) = \frac{12x^2 + 3x}{7x - 8}$. Rewrite f as a product, then use the product and chain rules to compute $f'(x)$. (We will eventually derive a "quotient rule" for the derivative of a quotient function.)

$f'(x) =$ _____