

MT 1800 Calculus I
Worksheet 3.1–3.4 – Practice with Derivative Rules

- Purpose: To practice using the product, quotient & chain rules to find derivatives.
 - Procedure: Work in groups of two to four to complete the worksheet.
1. Suppose f and g are differentiable functions with the values shown in the following table.
For each of the following functions, h , find $h'(x)$:

	$f(x)$	$g(x)$	$f'(x)$	$g'(x)$
$x=2$	1	6	1	0
$x=4$	-1	2	3	-3

a. $h(x) = -3 \cdot g(x)$:

$$h'(2) = \underline{\hspace{2cm}}$$

b. $h(x) = g(x) - 2 \cdot f(x)$:

$$h'(2) = \underline{\hspace{2cm}}$$

c. $h(x) = f(x) \cdot g(x)$:

$$h'(4) = \underline{\hspace{2cm}}$$

d. $h(x) = \frac{f(x)}{g(x)}$:

$$h'(4) = \underline{\hspace{2cm}}$$

e. $h(x) = f(g(x))$:

$$h'(4) = \underline{\hspace{2cm}}$$

f. $h(x) = f(x)^2$:

$$h'(4) = \underline{\hspace{2cm}}$$