

8. [12 points] In the following table, both f and g are differentiable functions of x . In addition, $g(x)$ is an invertible function. Write your answers in the blanks provided. You do not need to show your work.

x	2	3	4	5
$f(x)$	7	6	2	9
$f'(x)$	-2	1	3	2
$g(x)$	1	4	7	11
$g'(x)$	1	2	3	2

- a. [3 points] If $h(x) = \frac{g(x)}{f(x)}$, find $h'(4)$.

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

- b. [3 points] If $k(x) = f(x)g(x)$, find $k'(2)$.

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

- c. [3 points] If $m(x) = g^{-1}(x)$, find $m'(4)$.

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

- d. [3 points] If $n(x) = f(g(x))$, find $n'(3)$.

$$n'(3) = \underline{\hspace{2cm}}$$