

MTH 132.12 Quiz 4
Friday 18 February 2011

Name:

Show *all* your work. Points will be deducted for incomplete work. No calculators are allowed.

1. Compute the following derivatives. Show each derivative rule or formula you use.

(a) $\frac{d}{dx} \sin(x^2 + 2x)$

(b) $\frac{d}{dx} \left[\frac{(6x - 9)(4x + 6)}{8x^2 - 18} \right]$

2. Suppose f and g are differentiable functions with the following values:

x	$f(x)$	$f'(x)$	$g(x)$	$g'(x)$
0	1	4	1	$\frac{1}{5}$
1	3	2	0	$\frac{1}{3}$

Compute the following derivatives. Show each step.

(a) $\frac{d}{dx} \Big|_{x=0} [f(g(x))]$

(b) $\frac{d}{dx} \Big|_{x=1} \left[\frac{f(x)}{g(x) + 1} \right]$