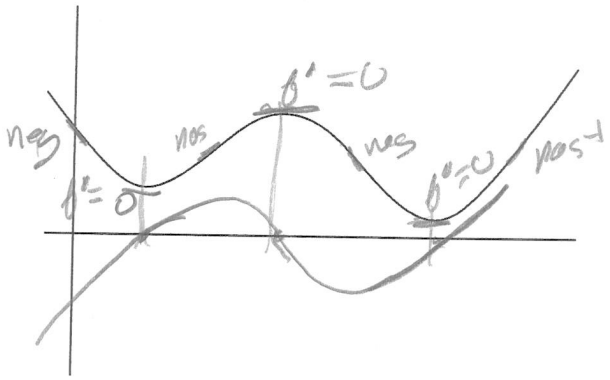
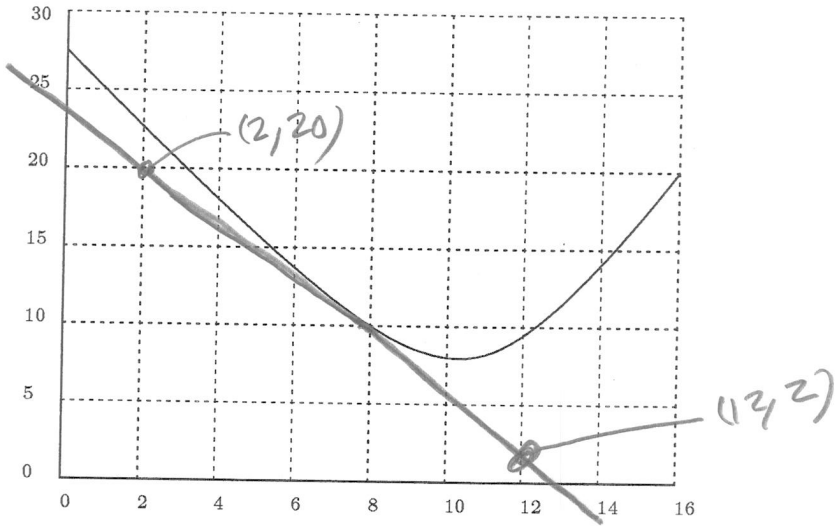
Mathematics 122

Quiz #8 Name: Key

You must show your work to get full credit.



1. The figure above gives the graph of a function $y = f(x)$. Sketch the graph of the derivative, $y = f'(x)$, on the same axis.



2. For the function with the graph above we wish to estimate the derivative $f'(8)$.

(a) Draw the tangent line to the graph at the point where $x = 8$ and label two points on the tangent line giving their coordinates.

(b) Use your labeled points to estimate $f'(8)$.

$f'(8)$ = slope of tangent line ≈ -1.8

$= \frac{\Delta y}{\Delta x} = \frac{2-20}{12-2} = \frac{-18}{10} = -1.8$

(If you choose other points you must have a different answer)