Mathematics 122

Quiz #13 Name: Key

You must show your work to get full credit.

1. If $f(40) = 50$ and $f'(40) = -2$ then estimate the following:

$f(41) \approx$ 48

$f(38) \approx$ 54

$f(41) \approx f(40) + f'(40)\,\Delta x$
$= 50 - 2(41-40)$
$= 50 - 2 = 48$

$f(38) \approx f(40) + f'(40)\,\Delta x$
$= 50 + 2(38-40)$
$= 50 - (-2) = 54$

2. Draw the graph of a function that satisfies the following

- $f(1) = 2$,
- $f(2) = 1$,
- $f'(1) = 0$,
- $f'' < 0$ (i.e. concave down)

labeling on the graph the points where $x = 1$ and $x = 2$.