Quiz #13   Name: ___Key___

You must show your work to get full credit.

(1) If $f(5) = 9$ and $f'(5) = -.3$, estimate $f(4.8)$.

$f(4.8) \approx f(5) + f'(5)\Delta x$ $f(4.8) \approx$ ___9.06___

$\qquad = 9 + (-.3)(-.2)$ $(\Delta x = 4.8 - 5.0 = -.2)$

$\qquad = 9 + .06$

(2) A function h is given by the table

t	2.0	2.2	2.4
$h(t)$	45.6	45.9	46.5

Estimate $h(2.32)$

$h(2.32) \approx$ ___46.26___

$(*)\quad h(2.32) \approx h(2.2) + h'(2.2)\Delta t$

$h(2.2) = 45.9$

$\Delta t = 2.32 - 2.2 = .12$

$h'(2.2) \approx \dfrac{\Delta h}{\Delta t} = \dfrac{46.5 - 45.9}{2.4 - 2.2} = 3.0$

use those in $(*)$

$h(2.32) \approx 45.9 + (3.0)(.12)$

$\qquad = 46.26$