Mathematics 122

Quiz #10 Name: Key

You must show your work to get full credit.

1. The weight, W, in pounds of a tree is a function of its height, H, in feet. That it $W = f(H)$. If $f(25) = 2{,}000$,and $f'(25) = 100$

(a) What are the units of 2,000? Units are lbs (pounds)

(b) What are the units of 100? Units are lbs/ft (Pounds/foot)

2. If $g(x)$ is a function with $g(10) = 23$ and $g'(10) = 1.5$ then estimate $g(12)$.

$g(12) \approx$ 26

$$g(12) \approx g(10) + g'(10)\Delta x$$
$$= 23 + 1.5(12-10)$$
$$= 23 + 1.5(2)$$
$$= 26$$