

Math 120  
12 October 2000  
Quiz #3 (20 points)

Name \_\_\_\_\_  
Section \_\_\_\_\_  
TA: \_\_\_\_\_

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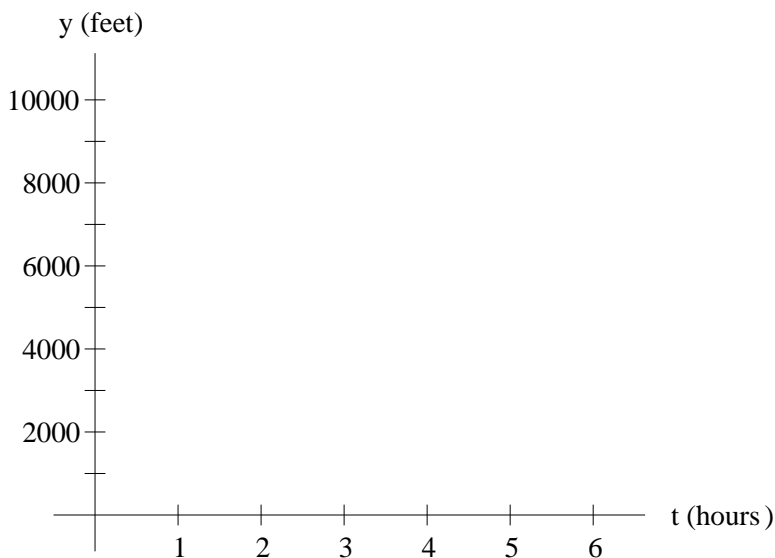
Instructions: You have 25 minutes for this quiz. You **MUST** show work for credit. No credit for answers only. If in doubt, ask for clarification. **NO GRAPHING CALCULATORS ALLOWED.** Use 2 decimal places of accuracy.

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(20pts) Margaret begins hiking at an elevation of 2000 ft. and reaches the summit of *Cartman Peak* after 5 hours. Margaret's elevation (in feet) after  $t$  hours is given by the multipart function  $e(t)$  with the rule below:

$$e(t) = \begin{cases} 1300t + 2000 & \text{if } 0 \leq t \leq 2 \\ 1600t^2 - 9600t + 17400 & \text{if } 2 \leq t \leq 5 \end{cases}$$

1. (2pts) What is the elevation of Cartman Peak?
2. (7pts) Sketch the graph of  $e(t)$  below. Indicate the coordinates of any local extrema in the graph (i.e. peaks and valleys). For credit, you **MUST** show how you computed the coordinates of these local extrema:



3. (3pts) How much time does Margaret spend going uphill?

4. (8pts) Find the total amount of time Margaret is at least 4000 feet above sealevel.