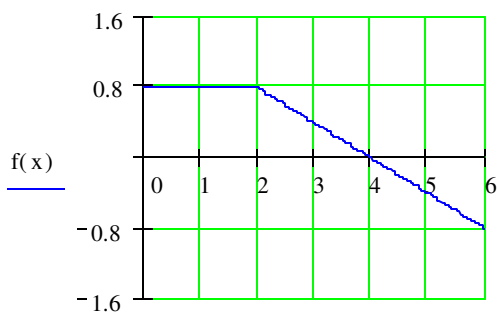


(8.) The graph in the figure below is the graph of  $\frac{dh}{dt}$ , where  $h$  is the altitude in thousands of feet above sea level and  $t$  is in hours, for Professor Bob's recent climb to the top of Bear Peak in Colorado. Use the graph to answer the following questions.



- (a) (3 pts) How long did it take Bob to reach the peak of the mountain?
- (b) (5 pts) What was the total change in altitude between  $t = 0$  and  $t = 4$ ?
- (c) (4 pts) If Bob began his climb at 6000 feet above sea level, how high is the peak above sea level?
- (d) (4pts) After 6 hours, Bob stopped at a lookout point to have a snack. What was the altitude of the lookout point?

(9.) (3 pts) Use the Fundamental Theorem of Calculus to evaluate the function below. To get credit, you must **show all of your work**. Please circle your answer.

[Note: This is a different problem from above.]

$$\int_2^5 (3x^2 - 4x + 1) dx$$