Assignment 1

- 1. Suppose you ride your bicycle at a speed of 20 miles per hour. How far do you go in 1 hour? In two hours? In 30 minutes? In 15 minutes?
- 2. Below is the graph of the speed of a bicycle (in mph) over a 20 minute time period.
 - (a) How far does the bicycle go in the first four minutes? First twenty minutes? Between two and sixteen minutes?
 - (b) What does $\int_4^{12} v(t) dt$ represent? What is its value?
 - (c) Find values of a and b so that $\int_a^b v(t) dt = 2$ (miles). Shade an area on the graph that represents the value of this integral.
 - (d) Does this graph represent a possibly real physical situation? Explain.

