

Homework due Tuesday January 30

1. A jogger runs for 40 minutes. Her speed is graphed below as a function of time.

a. Write a step function $S(t)$ which approximates the runner's speed as a function of time, and graph this function.

b. The distance the runner is covering may be thought of as accumulating as her trip progresses. Write a piecewise linear function $D(t)$ which approximates her distance covered as a function of time. Sketch the graph of this function.

c. How far has she run at the end of 30 minutes?

c. Sketch the graph of $D'(t)$.

d. What is her approximate average speed for this run?

2. Read Section 6.4 in the text. There will be a quiz on this reading at the beginning of next week. Then on Pages 365–368 #3, #4abcd, #5, #7, #8ab, #10, #11, #12. This is some of the most important material we will be covering so this is a long assignment. Thus you should get started early. If you have problems we will go over questions in class Monday.