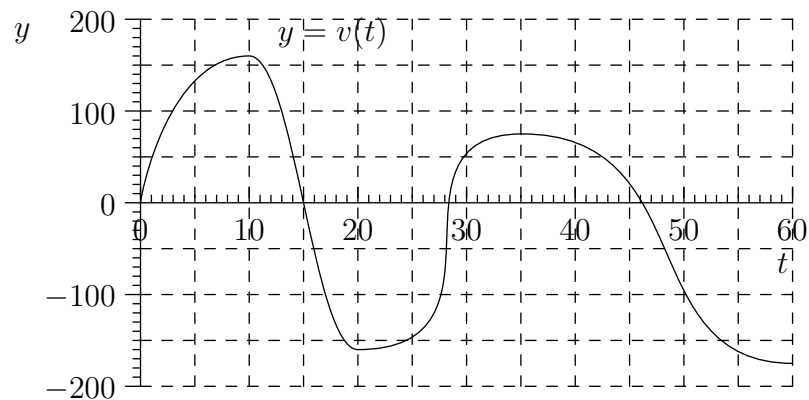


MTH 124.019 Quiz 7
Friday 26 March 2010

Name:

Show *all* your work. Points will be deducted for incomplete work. There are two pages.

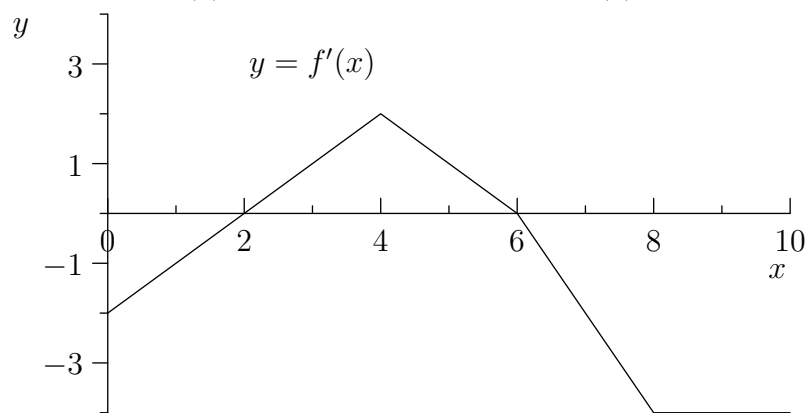
1. Dr. McVillain has trapped you in his doom tunnel. He toys with you by sending one of his Deathbot 3000 robots down the tunnel; when you flee, the Deathbot stops and Dr. McVillain sends another Deathbot in from the other end of the tunnel, causing you to flee in the opposite direction. (This continues for the last terrifying hour of your life.) You start in the middle of the tunnel. The following is a graph of your *velocity*, $v(t)$ (in meters per minute), at time t (in minutes) with east being the positive direction.



Answer the following questions. Justify your answers using the graph.

- (a) When are you farthest west of the middle of the tunnel? How far west are you?
- (b) When are you farthest east of the middle of the tunnel? How far east are you?
- (c) List all the times you are at the middle of the tunnel.

2. The following is the graph of $f'(x)$. Fill in the table of values for $f(x)$.



x	1	3	5	7	9
$f(x)$	1				