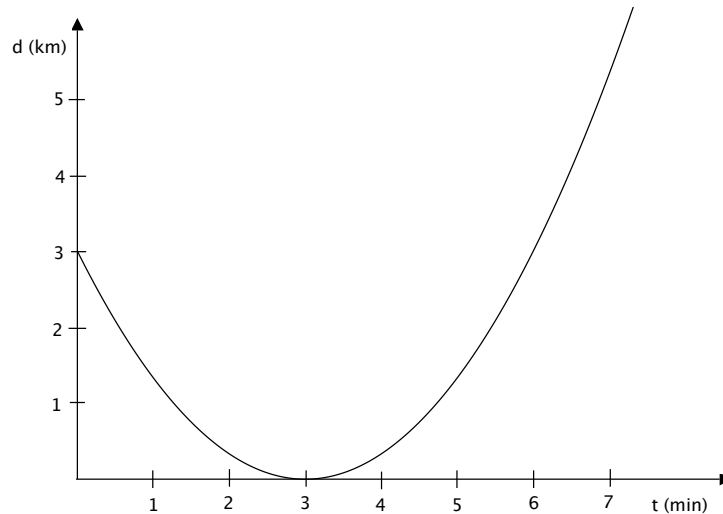


Name: _____

Math 112 Worksheet #1
January 12, 2007

1. The figure below shows the distance d from home in kilometers as a function of time t in minutes. ($d = f(t)$)



(a) Estimate the instantaneous velocity at $t = 5$ using the graph. Include units.

(b) List the following from least to greatest:

The instantaneous
velocity at $t = 1$

The instantaneous
velocity at $t = 5$

The instantaneous
velocity at $t = 6$

(c) The distance function can also be described by the equation $f(t) = \frac{1}{3}(t-3)^2$. Use this equation to find an estimate of $f'(5)$. Include units.

(d) From the graph, what do you expect $f'(3)$ to be? Estimate the value of $f'(3)$ numerically using small intervals.

(e) For what values of t is $f'(t)$ positive? Negative? Equal to zero?