Name: _____   Section: _____

Math 120A   Quiz 3   October 17, 2002

Show all work for full credit (do not merely read a solution from a graph on your calculator, for instance).

1. (5 points) Suppose $f(x) = 1 - 3x^2$. Assuming $h \neq 0$, simplify the expression

$$\frac{f(x+h) - f(x)}{h}$$

as much as possible.

2. (5 points) Moose and Squirrel are standing together in a park and then start running away from each other. Moose starts running north at 3 meters per second, and Squirrel runs west at 4 meters per second. After 12 seconds, Moose turns 90 degrees to the right and runs east at 2 meters per second. Write a multi-part (i.e., piece-wise defined) function that describes the distance between Moose and Squirrel at any time $t \geq 0$. You do not need to simplify your function.