

Name: _____

Section: _____

MATH 120D
QUIZ 2
October 10, 2002

You may use a calculator to complete this quiz. No notes please. Show all work.

1. A sprinkler in the park creates a muddy circular region of radius 10 feet with the sprinkler at the center of the circle. A cat sits 7 feet west and 8 feet north of the sprinkler. A bird sits 13 feet east of the cat.

(a) (3 points) Impose a coordinate system and give the coordinates of the cat, the bird, and the sprinkler.

(b) (4 points) The cat runs in a straight-line path toward the bird. The cat runs at a constant rate of 15 feet per second when not in the mud and at a constant rate of 7 feet per second when in the mud. Assuming the bird doesn't move, how long will it take the cat to reach the bird?

2. (3 points) Let $f(x) = x^2 - 4$. Compute $\frac{f(3+h) - f(3)}{h}$ and simplify as much as possible.