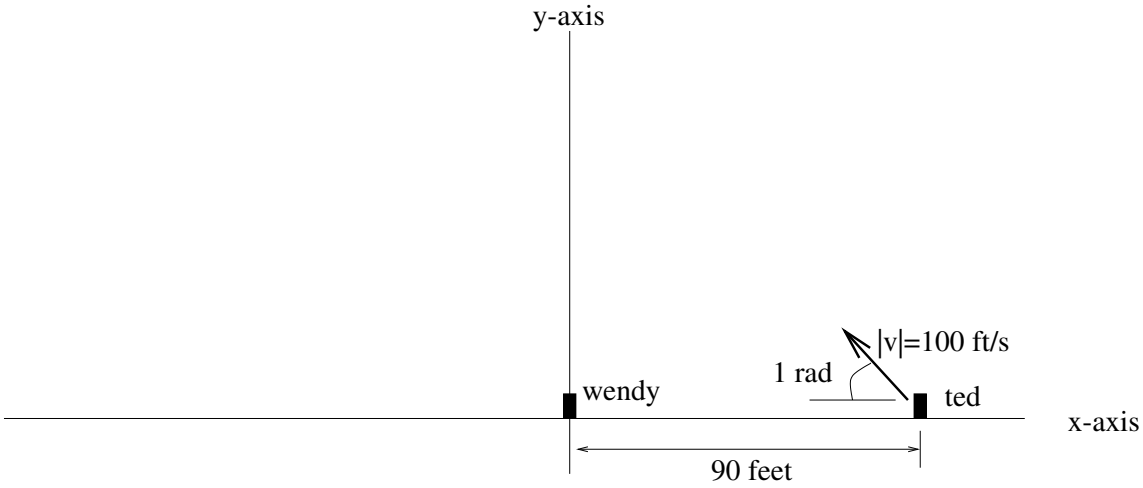
Math 120F
December 2, 1997
Quiz #8 (20 points)
TA section (Circle one): FA FB FC FD

Name _____

Instructions: You have 25 minutes total for Quiz #8. You **MUST** show work for credit. If in doubt, ask for clarification.

(20 points) Ted hits a baseball giving it an initial velocity vector as pictured. He hits the ball when it is 3 ft above the ground. Wendy is initially located at the origin of the coordinate system.



(a) (3 pts.) Resolve the velocity vector for the ball, computing v_x and v_y.

(b) (4 pts.) Find parametric equations for the ball.

(c) (4 pts.) Find where (i.e. coordinates) and when (i.e. time t) the ball reaches its highest point. Label this point in the picture.

(d) (4 pts.) When is the ball 6 feet above the ground?

(e) (5 pts.) The moment the ball is hit, Wendy starts running to catch it. Assume she runs a constant speed and catches the ball when it is 6 feet above the ground. Answer these questions:

- (1 pts.) Which direction does she run?

- (2 pts.) Where does she make the catch? Label this location in the picture.

- (2 pts.) How fast does she run?