Math 120C Autumn, 2001

## Quiz Six

Name: $\qquad$

| Section | 11:30 | CA | CC |
| ---: | :--- | :--- | :--- |
| (circle one) | $12: 30$ | CB | CD |

No notes. No calculators.
Simplify your answers. Show your work. Please put a box around YOUR FINAL ANSWER. There are 15 points on this quiz.


Jeremy is riding a ferris wheel that has a radius of 80 feet, as shown in the picture, above. The lowest point of the wheel is 12 feet above the ground, and the wheel spins at a constant angular speed of 6 RPM counter-clockwise.

1 (3 points) At time $t=7.5$ seconds, Jeremy is at the lowest point. What is his position (on the coordinate axes shown) at $t=0$ ?

2 (4 points) Give parametric equations $x(t)$ and $y(t)$ for Jeremy's position at time $t$.

3 (2 points) At time $t=0$, Jeremy throws a camera to Edwin so that he can take a picture of him riding the ferris wheel. The equation of the path of the camera is given by

$$
\begin{aligned}
& y(t)=-16 t^{2}+12 t+A \\
& x(t)=5 t+B .
\end{aligned}
$$

(These are in feet, and $t$ is in seconds.) Find the constants $A$ and $B$.

4 (2 points) When does the camera reach its greatest height?

5 (4 points) Find the equation $y=f(x)$ for the path of the camera.

