Name _____   Student Number _____

Show all work. Label your answers clearly.

Bengt is still running. Today he is running counter-clockwise around a circular track with a 500-foot radius. He starts at the Western-most point of the track and runs at 1.3 $\frac{rads}{min}$. Impose a coordinate system with the origin at Bengt's starting point.

a) Find parametric equations $x(t)$ and $y(t)$ giving Bengt's x and y coordinates.

b) Find the first 5 times Bengt crosses the line $y = 300$.

c) In the first 13 minutes, how much time is Bengt north of the line $y = 300$?