6E Applying Circle Theorems

1. The line $4x - 3y - 40 = 0$ is a tangent to the circle $(x - 2)^2 + (y - 6)^2 = 100$ at P = (10,0). Show that the radius at P is perpendicular to this line.

2. A circle C has equation:

$$(x-5)^2+(y+3)^2=10$$

The line l is a tangent to the circle and has gradient -3. Find the two possible equations for l, giving your answers in the form $y=mx+c$.