1. Determine the equation of the line that is tangent to the ellipse E at the point $(8, 12)$, where E is the ellipse that is given by the equation

$$\frac{(x+2)^2}{25} + \frac{(y-4)^2}{16} = 8.$$

2. The line tangent to a quadratic polynomial f at $(2, 5)$ is given by

$$L(x) = 7(x-2) + 5.$$

Determine the line tangent to f^{-1} at $(5, 2)$.

3. Find the the equation of the line L tangent to $f(x) = \sqrt{x}$ at $(625, 25)$.