Equation Point

$$4x^{2}-24x-25y^{2}+250y-489=0 \left(^{27}/\_{4},^{5}/\_{2}\right)$$

( 1) identify the conic section represented by the equation.

( 2) write the equation of the conic section in standard form.

( 3) identify all relevant key elements of your conic section such as center,

focus/foci, directrix, radius, lengths of major and/or minor axes,

equations of asymptotes, and length of latus rectum.

( 4) sketch the graph of the conic section.

( 5) determine the equation of the line that is tangent to the conic section

at the provided point.

( 6) write a brief (two to three paragraph) essay describing the four nondegenerate

conic sections, how you knew to distinguish your conic section from the

other three, and a possible application that might involve your type of

conic section