

(6.) (11 points) The equation $x^2 - xy + y^2 = 3$ represents a “rotated ellipse”—that is, an ellipse whose axes are not parallel to the coordinate axes.

(a) Find the points at which this ellipse crosses the x -axis.

(b) Show that the lines tangent to the ellipse at these points are parallel.

(c) Under what conditions on x and y (if any) would a tangent to the curve be vertical?