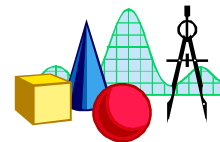




MATH DEPT. TUTORIAL 13



Tutorial 13: Conics.

1. Sketch a graph of each of the following conic sections.
 - (i) $y = x^2 + x - 2$
 - (ii) $2x^2 + 3y^2 = 12$
 - (iii) $-x^2 + y^2 = -1$
 - (iv) $4x^2 - 9y^2 = -36$
 - (v) $25x^2 + 16y^2 = 400$
 - (vi) $4x^2 + 8x + 2y = 6$

2. Determine whether each of the following equations represents a parabola, an ellipse, a hyperbola, or a degenerate conic section. Then sketch the graph.
 - (i) $9x^2 - 36x + 4y^2 = 0$
 - (ii) $9x^2 - y^2 + 18x + 6y = 0$
 - (iii) $x^2 - 4y^2 - 2x + 16y = 31$
 - (iv) $4x^2 + 25y^2 - 24x + 250y + 561 = 0$
 - (v) $16x^2 - 9y^2 - 96x + 288 = 0$
 - (vi) $3x^2 + 4y^2 + 30x - 40y + 175 = 0$