

Advanced Algebra

Conics: Ellipses – Homework

Write the given equations of ellipses in Standard Form and sketch a graph, labeling the center, vertices and foci:

1) $(x + 2)^2 + 4(y + 4)^2 = 1$

2) $9x^2 + 4y^2 - 36x + 8y + 31 = 0$

3) $36x^2 + 9y^2 + 48x - 36y + 43 = 0$

4) $4x^2 - 16x + 8y^2 - 16y + 23 = 0$

From the given information, write the equation of each ellipse in General Form:

5) Center (0, 0), focus (2, 0), vertex (3, 0)

6) Vertices (0, 2) and (4, 2), length of minor axis = 2

7) Foci (-2, 0) and (2, 0), length of major axis = 8

8) Center (0, 0), major axis horizontal, curve passes through the points (3, 1) and (4, 0).