

Name: _____

Ellipse

Exercise 1: Sketch the graph and find all the elements of each ellipse:

1) $4x^2 + y^2 = 16$

2) $x^2 + 25y^2 = 125$

3) $\frac{(x+5)^2}{81} + \frac{(y-4)^2}{169} = 1$

4) $\frac{(x+1)^2}{9} + \frac{(y-1)^2}{25} = 1$

5) $\frac{(x-2)^2}{25} + \frac{(y+1)^2}{16} = 1$

6) $\frac{(x+3)^2}{36} + \frac{(y-5)^2}{100} = 1$

7) $\frac{(x+7)^2}{49} + \frac{(y-3)^2}{121} = 1$

8) $\frac{(x+2)^2}{64} + \frac{(y-2)^2}{9} = 1$

Exercise 2: Find the equation of the ellipse with center at the origin such that:

- 1) Vertex (0, -12) and focus (0, -4).
- 2) Vertex (0, -8) and focus (0, -6).
- 3) Vertex (10, 0) and focus (6, 0).
- 4) Vertex (8, 0) and focus (5, 0).
- 5) Vertex (0, -13) and focus (0, -3).
- 6) Vertex (3, 0) and focus (1, 0).