Name: _____

Ellipse

Exercise 1: Write the equation of each ellipse in standard form then find the center, foci, and vertices

1) $490x^2+90y^2 - 4410 = 0$
2) $x^2 + 4y^2 + 8x - 8y + 16=0$
3) $9x^2 + 4y^2 + 126x + 64y + 661=0$
4) $25x^2 + y^2 + 400x + 4y + 1579=0$

Exercise 2: Find the center, foci, and vertices.

1) $5x^2+3y^2=15$
2) $3x^2+4y^2=12$
3) $12x^2+20y^2-12x+40y-37=0$
4) $36x^2+9y^2+48x-36y-72=0$

Exercise 3: Find the standard form of the equation of the ellipse with the given characteristics and center at the origin.

1) Vertices: (±6,0);foci: (±2,0)
2) Vertices: (0, ±8);foci: (0, ±4)
3) Foci: (±5,0);major axis of length 12
4) Foci: (±2,0);Major axis of length 8
5) Vertices: (o, ±5);passes through the point (4,2)
6) Major axis vertical; passes through the points (0,4) and (2,0)

Exercise 4: Find the standard form of the equation of the ellipse with the given characteristics.

1) Vertices: (0,4), (4,4);minor axis of length 2
2) Foci: (0,0),(4,0);major axis of length 8
3) Foci: (0,0),(0,8);major axis of length 16
4) Center: (2,1-); vertex: (2,1/2); minor axis of length 2
5) Center: (0,4); a =2c; vertices: (-4,4)(4,4)
6) Center: (3,2); a=3c; foci: 91,2),(5,2)
7) Vertices: (0,2),(4,2); endpoints of the minor axis: (2,3),(2,1)