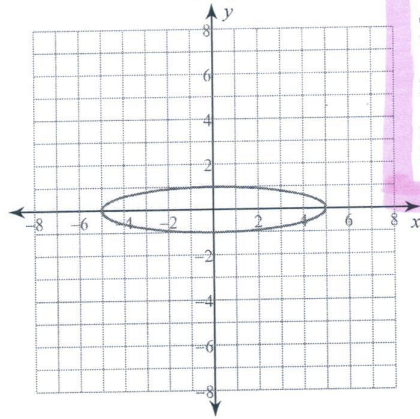


Ellipse Assignment

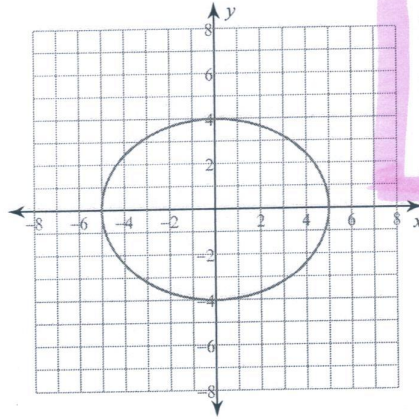
Identify the center, vertices, foci, length of the major axis, and length of the minor axis of each. Then sketch the graph.

1) $\frac{x^2}{25} + y^2 = 1$



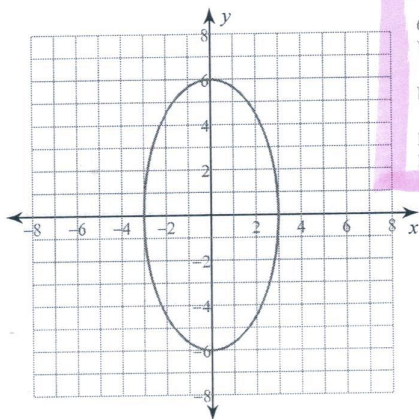
Center: (0, 0)
 Vertices: (5, 0)
 (-5, 0)
 Foci: $(2\sqrt{6}, 0)$
 $(-2\sqrt{6}, 0)$
 Major Axis: 10 units
 Minor Axis: 2 units

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



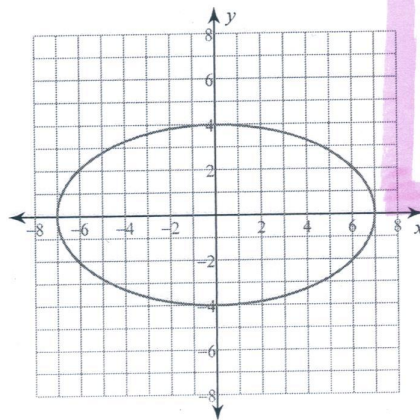
Center: (0, 0)
 Vertices: (5, 0)
 (-5, 0)
 Foci: (3, 0)
 (-3, 0)
 Major Axis: 10 units
 Minor Axis: 8 units

3) $\frac{x^2}{9} + \frac{y^2}{36} = 1$



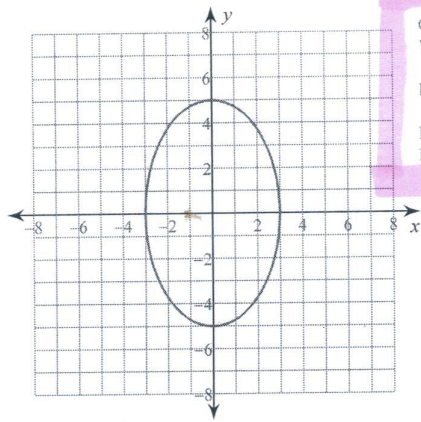
Center: (0, 0)
 Vertices: (0, 6)
 (0, -6)
 Foci: $(0, 3\sqrt{3})$
 $(0, -3\sqrt{3})$
 Major Axis: 12 units
 Minor Axis: 6 units

4) $\frac{x^2}{49} + \frac{y^2}{16} = 1$



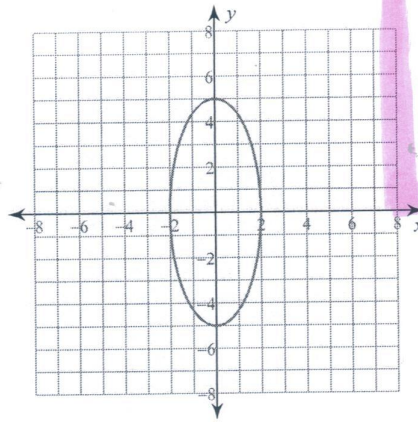
Center: (0, 0)
 Vertices: (7, 0)
 (-7, 0)
 Foci: $(\sqrt{33}, 0)$
 $(-\sqrt{33}, 0)$
 Major Axis: 14 units
 Minor Axis: 8 units

$$5) \frac{x^2}{9} + \frac{y^2}{25} = 1$$



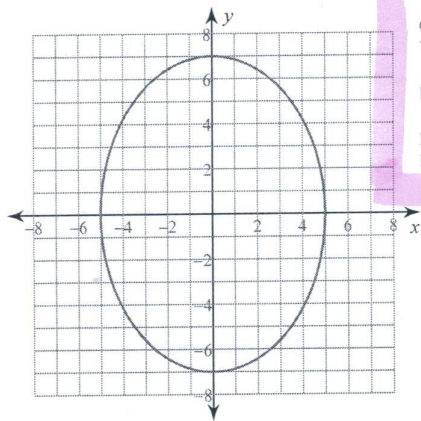
Center: (0, 0)
 Vertices: (0, 5)
 (0, -5)
 Foci: (0, 4)
 (0, -4)
 Major Axis: 10 units
 Minor Axis: 6 units

$$6) \frac{x^2}{4} + \frac{y^2}{25} = 1$$



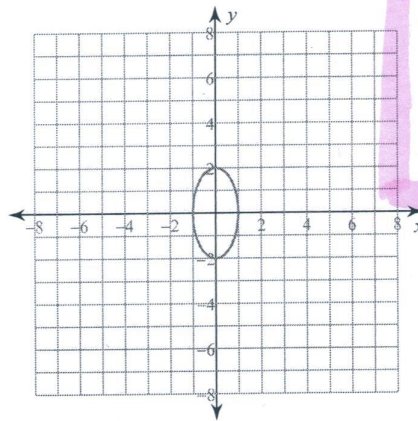
Center: (0, 0)
 Vertices: (0, 5)
 (0, -5)
 Foci: (0, $\sqrt{21}$)
 (0, $-\sqrt{21}$)
 Major Axis: 10 units
 Minor Axis: 4 units

$$7) \frac{x^2}{25} + \frac{y^2}{49} = 1$$



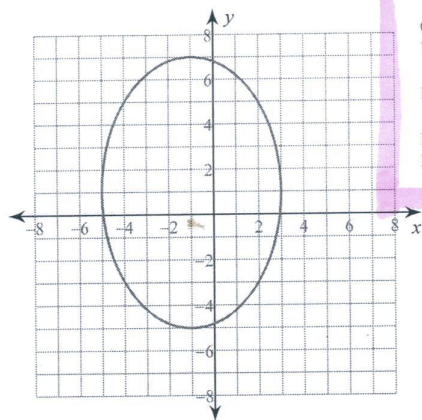
Center: (0, 0)
 Vertices: (0, 7)
 (0, -7)
 Foci: (0, $2\sqrt{6}$)
 (0, $-2\sqrt{6}$)
 Major Axis: 14 units
 Minor Axis: 10 units

$$8) x^2 + \frac{y^2}{4} = 1$$



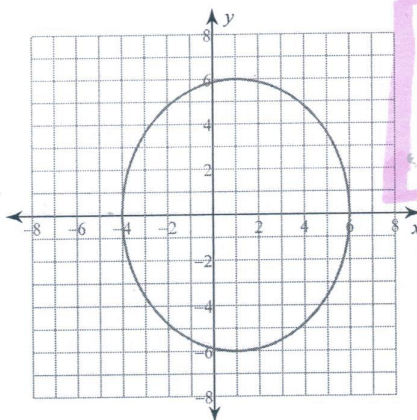
Center: (0, 0)
 Vertices: (0, 2)
 (0, -2)
 Foci: (0, $\sqrt{3}$)
 (0, $-\sqrt{3}$)
 Major Axis: 4 units
 Minor Axis: 2 units

$$9) \frac{(x+1)^2}{16} + \frac{(y-1)^2}{36} = 1$$



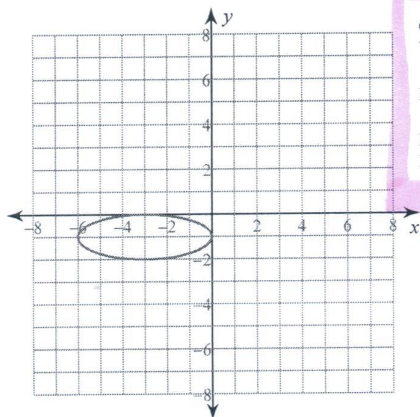
Center: $(-1, 1)$
 Vertices: $(-1, 7)$
 $(-1, -5)$
 Foci: $(-1, 1 + 2\sqrt{5})$
 $(-1, 1 - 2\sqrt{5})$
 Major Axis: 12 units
 Minor Axis: 8 units

$$10) \frac{(x-1)^2}{25} + \frac{y^2}{36} = 1$$



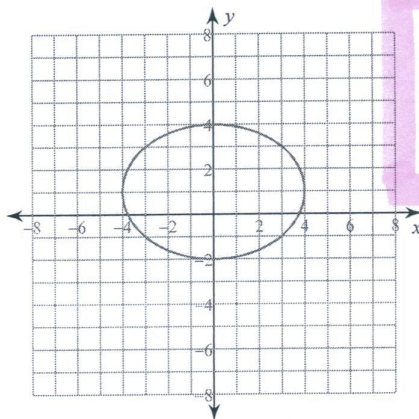
Center: $(1, 0)$
 Vertices: $(1, 6)$
 $(1, -6)$
 Foci: $(1, \sqrt{11})$
 $(1, -\sqrt{11})$
 Major Axis: 12 units
 Minor Axis: 10 units

$$11) \frac{(x+3)^2}{9} + (y+1)^2 = 1$$



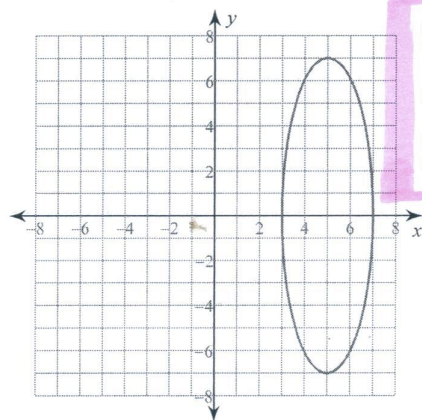
Center: $(-3, -1)$
 Vertices: $(0, -1)$
 $(-6, -1)$
 Foci: $(-3 + 2\sqrt{2}, -1)$
 $(-3 - 2\sqrt{2}, -1)$
 Major Axis: 6 units
 Minor Axis: 2 units

$$12) \frac{x^2}{16} + \frac{(y-1)^2}{9} = 1$$



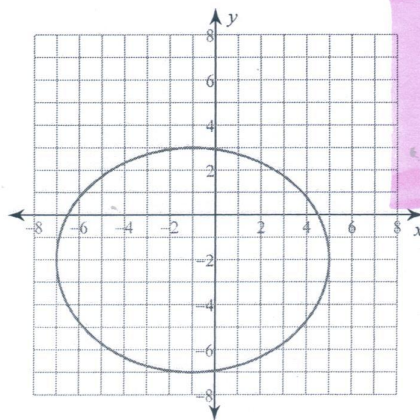
Center: $(0, 1)$
 Vertices: $(4, 1)$
 $(-4, 1)$
 Foci: $(\sqrt{7}, 1)$
 $(-\sqrt{7}, 1)$
 Major Axis: 8 units
 Minor Axis: 6 units

$$13) \frac{(x-5)^2}{4} + \frac{y^2}{49} = 1$$



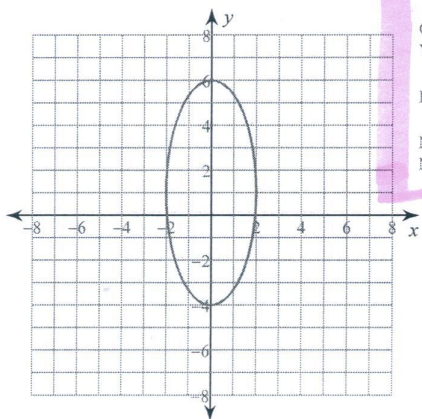
Center: (5, 0)
 Vertices: (5, 7)
 (5, -7)
 Foci: (5, $3\sqrt{5}$)
 (5, $-3\sqrt{5}$)
 Major Axis: 14 units
 Minor Axis: 4 units

$$14) \frac{(x+1)^2}{36} + \frac{(y+2)^2}{25} = 1$$



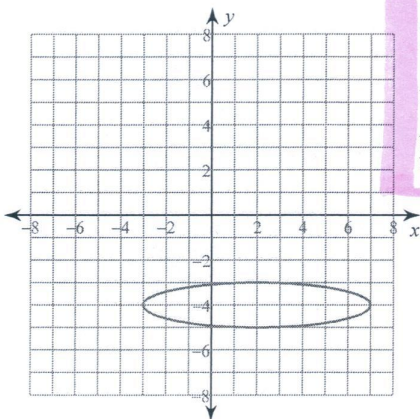
Center: (-1, -2)
 Vertices: (5, -2)
 (-7, -2)
 Foci: $(-1 + \sqrt{11}, -2)$
 $(-1 - \sqrt{11}, -2)$
 Major Axis: 12 units
 Minor Axis: 10 units

$$15) \frac{x^2}{4} + \frac{(y-1)^2}{25} = 1$$



Center: (0, 1)
 Vertices: (0, 6)
 (0, -4)
 Foci: $(0, 1 + \sqrt{21})$
 $(0, 1 - \sqrt{21})$
 Major Axis: 10 units
 Minor Axis: 4 units

$$16) \frac{(x-2)^2}{25} + (y+4)^2 = 1$$



Center: (2, -4)
 Vertices: (7, -4)
 (-3, -4)
 Foci: $(2 + 2\sqrt{6}, -4)$
 $(2 - 2\sqrt{6}, -4)$
 Major Axis: 10 units
 Minor Axis: 2 units