In-Class Problems 20 for Wednesday, April 11

These problems are from Pre-Class Problems 20.

1. For the following ellipses, identify the center, the major axis, the vertices, the length of major axis, the foci, the minor axis, the endpoints of minor axis, and the length of the minor axis. Sketch the graph of the ellipse in a, b and d.

   a. $\frac{x^2}{49} + \frac{y^2}{64} = 1$

   b. $9x^2 + 25y^2 = 225$

   c. $\frac{9x^2}{16} + \frac{36y^2}{5} = 1$

   d. $9(x - 2)^2 + 4(y + 7)^2 = 144$

2. Write the standard form of the equation of the ellipse with vertices of $(0, -8)$ and $(0, 8)$ and foci of $(0, -6)$ and $(0, 6)$.