Algebra 3 Assignment # 1

Sketch a graph of each of the following please. Label the center, endpoints of the major and minor axes, and the focus points.

(1) $25x^2 + 16y^2 = 400$

(2) $9x^2 + 16y^2 = 144$

(3) $4x^2 + y^2 = 4$

(4) $4x^2 + 9y^2 - 16x + 54y + 61 = 0$

(5) $25x^2 + 4y^2 + 50x - 16y - 59 = 0$

(6) $x^2 + 4y^2 + 6x - 8y + 9 = 0$

(7) $4x^2 + y^2 + 4y - 12 = 0$

(8) $4x^2 + 4y^2 - 8x + 16y + 19 = 0$

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Answers

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

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

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

(4) $\frac{(x - 2)^2}{9} + \frac{(y + 3)^2}{4} = 1$

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

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

(7) $\frac{(x - 0)^2}{4} + \frac{(y + 2)^2}{16} = 1$

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