

MATH 243: SECTION 10.5 GROUPWORK

- (1) Find the vertices and foci of the ellipse

$$x^2 + 9y^2 = 1$$

and sketch its graph.

- (2) Find the vertices, foci, and asymptotes of the hyperbola

$$225 + 9y^2 = x^2$$

and sketch its graph. [Hint: $225 = 15^2$.]

- (3) Find an equation for the ellipse with vertices $(\pm 3, 0)$ and foci $(\pm 2, 0)$ and an equation for the hyperbola with vertices $(\pm 2, 0)$ and foci $(\pm 3, 0)$.