EXERCISES on ELLIPSE

A. Complete the following table below and sketch the graph on a graphing paper labeling each important point/line by the appropriate letter.

	GENERAL EQUATION	STANDARD EQUATION	AXIS	CENTER	VERTICES	EXTREMETIES/CO-VERTICES	FOCI	DIRECTRICES	ECCENTRICITY
1.	$25x^2 + 9y^2 - 225 = 0$								
2.		$\frac{(x-1)^2}{169} + \frac{(y+2)^2}{25} = 1$							
3.					(8, 0) (,)	(0, 17) (,)			
4.							(5, 2) (,)	x = 0 x = ___	$\frac{2}{3}$

Note that in #4, the given focus and directrix are corresponding focus and directrix.

B. Solve the following problems on the space below:

1. The orbit of Pluto is an ellipse with the sun at one focus. If the nearest and farthest distances of Pluto from the sun are 4 billion km and 6 billion km, respectively, what is the eccentricity of Pluto's orbit?

2. The dome of a whispering gallery has a semi-elliptical cross-section. The gallery is 15 feet high at the middle and 8 feet high at the side walls. If the side walls are 50 feet apart, how far apart are the two whispering points in the gallery?