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$$\#7) \quad \frac{(x-2)^2}{9} - \frac{(y-1)^2}{3} = 1$$

$$a = 3, \quad b = \sqrt{3}, \quad \Rightarrow c = \sqrt{12} = 2\sqrt{3}$$

Center : $(2, 1)$

Vertices : $(h \pm a, k) = (5, 1) \quad (-1, 1)$

Foci : $(2 \pm 2\sqrt{3}, 1)$

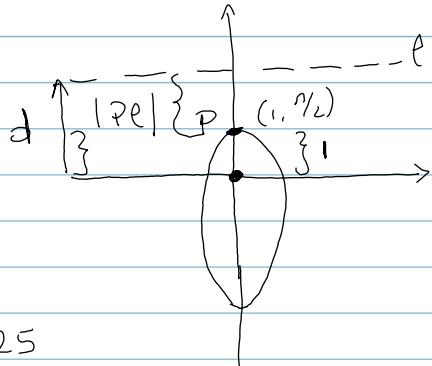
Asymptotes : $y - 1 = \pm \frac{\sqrt{3}}{3}(x - 2)$

$$y = 1 \pm \frac{\sqrt{3}}{3}(x - 2)$$

$$\#9) \quad r = \frac{ed}{1 + es \sin \theta}$$

$$e = \frac{|PF|}{|Pe|} \Rightarrow 0.8 = \frac{1}{d-1}$$

$$0.8d - 0.8 = 1 \Rightarrow d = 2.25$$



$$r = \frac{(0.8)(2.25)}{1 + (0.8)\sin \theta} \cdot \frac{5}{5} \Rightarrow \boxed{r = \frac{9}{5 + 4\sin \theta}}$$