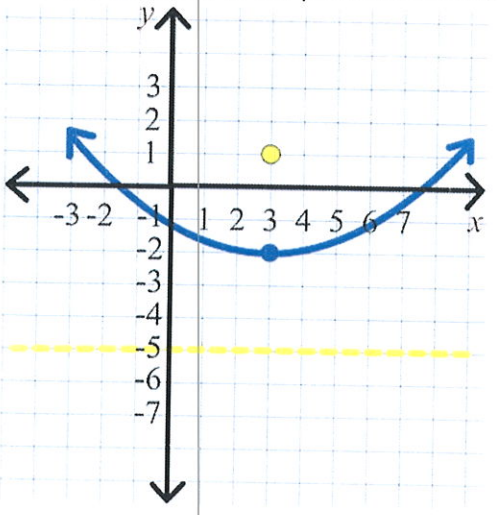
MTH 166, Quiz #14, Fall 2017 Name KEY

**Instructions:** Show all work. Use exact answers unless specifically asked to round. Answer all parts of each question.

1. Find the equation of the parabola shown.

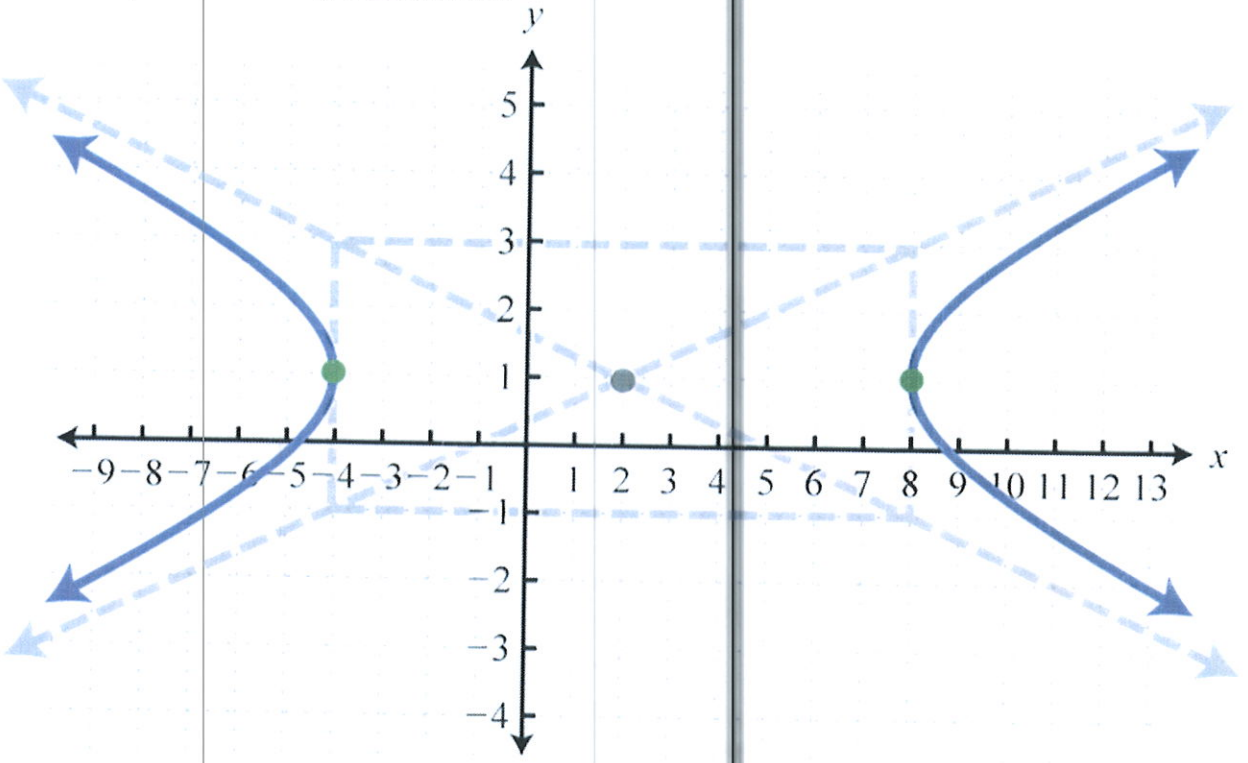



$a = 3$

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

$12(y+2) = (x-3)^2$

2. Find the equation of the hyperbola shown.




$$-\frac{(y-1)^2}{4} + \frac{(x-2)^2}{36} = 1$$

3. Graph the equation $r = \frac{2}{3+3\sin\theta}$. Determine the type of conic from the eccentricity.

$\frac{2/3}{1+\sin\theta}$

parabola

$e = 1$