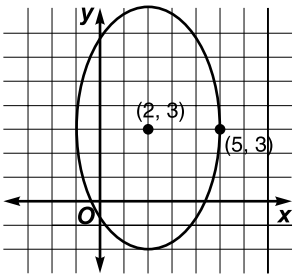
NAME _____ DATE _____ PERIOD _____

Practice

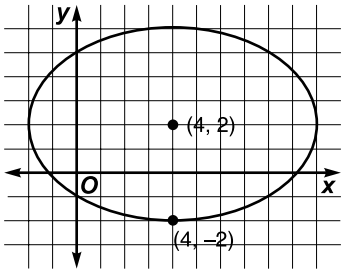
Ellipses

Write the equation of each ellipse in standard form. Then find the coordinates of its foci.

1.

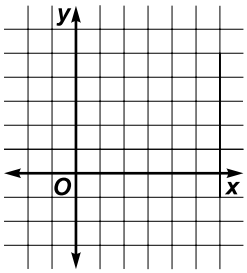


2.

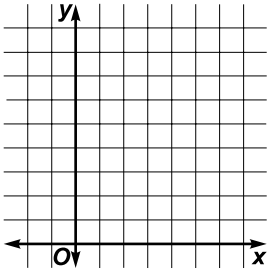


For the equation of each ellipse, find the coordinates of the center, foci, and vertices. Then graph the equation.

3. $4x^2 + 9y^2 - 8x - 36y + 4 = 0$



4. $25x^2 + 9y^2 - 50x - 90y + 25 = 0$



Write the equation of the ellipse that meets each set of conditions.

5. The center is at (1, 3), the major axis is parallel to the y-axis, and one vertex is at (1, 8), and $b = 3$.

6. The foci are at $(-2, 1)$ and $(-2, -7)$, and $a = 5$.

7. ***Construction*** A semi elliptical arch is used to design a headboard for a bed frame. The headboard will have a height of 2 feet at the center and a width of 5 feet at the base. Where should the craftsman place the foci in order to sketch the arch?