

$$(x-h)^2 + (y-k)^2 = r^2 \qquad \frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1 \qquad \frac{(x-h)^2}{a^2} - \frac{(y-k)^2}{b^2} = 1$$

$$(x-h)^2 = 4p(y-k)$$

Advanced Math
Chapter 6 Practice Test

1. Write an equation that represents all points (x,y) that are equal distance from the points (1, 4) and (1,10).

2. For the equation $4x^2 + 25y^2 - 24x + 50y = 39$ find the coordinates of the center, foci, and vertices.

Center:

Foci:

Vertices:

3. Write an equation in standard form for a hyperbola that has vertices at (-2, -3) and (6, -3) and a focus is at (-3, -3). Also state the equations of the asymptotes.

Equation:

Asymptotes:

For questions 5 and 6, identify the conic section represented by the equation.

4. $4x^2 - 7x + 2y^2 = 10$

5. $4y^2 + 6x = -5y + 20$

6. A parabola passes through the point (-3,1) has a vertex at (-2, -3) and opens to the left. Write its equation.

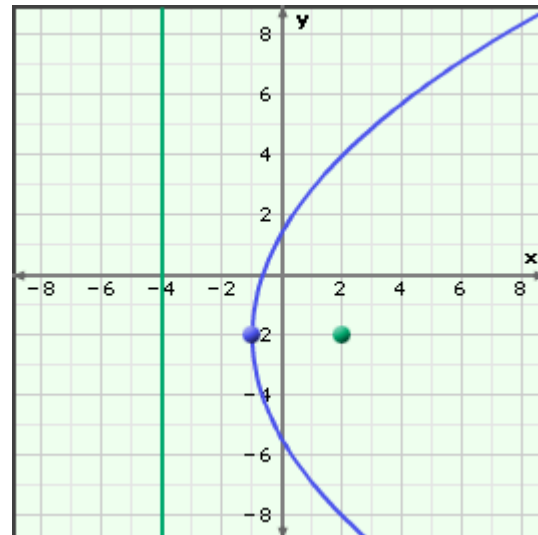
$$(x-h)^2 + (y-k)^2 = r^2$$

$$\frac{(x-h)^2}{a^2} + \frac{(y-k)^2}{b^2} = 1$$

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$$(x-h)^2 = 4p(y-k)$$

7. Write the standard form of the equation that represents the parabola that is shown at the right.



8. Write the equation of an ellipse that has foci at (2,0) and (-2,0) and a major axis 14 units in length.

9. A(n) _____ is the set of all points (x,y) the sum of whose distances from 2 fixed points called foci is constant

10. A(n) _____ is the set of all points (x,y) the difference of whose distances from 2 fixed points called foci is constant.

11. A(n) _____ is the set of all points (x,y) that are equal distance from a point and a line.

12. Discuss the domain and range of the graph $\frac{(x-3)^2}{4^2} - \frac{(y-1)^2}{5^2} = 1$

13. Graph the conic section

$$\frac{(y-3)^2}{16} - \frac{(x-1)^2}{4} = 1$$

