

EXTRA PRACTICE — Exercises

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Unit IX – The Conic Sections

Part D – Hyperbolas

Lesson 1 – Hyperbolas - Standard Form

Graph the solution set hyperbola for each of the following second-degree equations by using the standard form to identify the center, the rectangle of reference with its diagonals, and the vertices.

1. $\frac{x^2}{9} - \frac{y^2}{16} = 1$

2. $\frac{(x-8)^2}{9} - \frac{(y-5)^2}{4} = 1$

3. $\frac{x^2}{4} - \frac{y^2}{1} = 1$

4. $\frac{(x+5)^2}{36} - \frac{(y-1)^2}{64} = 1$

5. $\frac{(x+1)^2}{4} - \frac{(y-2)^2}{12} = 1$

EXTRA PRACTICE — Answer Key

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Unit IX – The Conic Sections

Part D – Hyperbolas

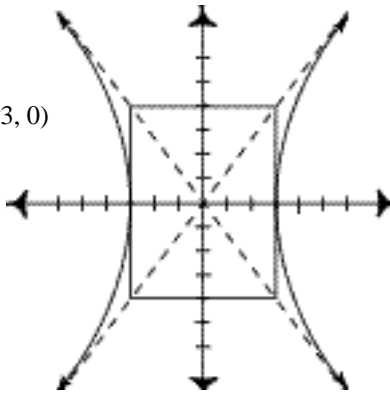
Lesson 1 – Hyperbolas - Standard Form

Graph the solution set hyperbola for each of the following second-degree equations by using the standard form to identify the center, the rectangle of reference with its diagonals, and the vertices.

1. center (0,0)

$a = 3$, $b = 4$

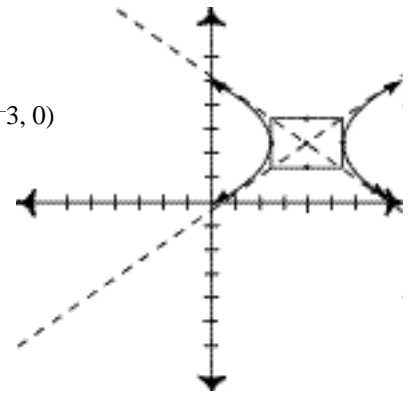
vertices: (3, 0) and (-3, 0)



2. center (8, 5)

$a = 3$, $b = 2$

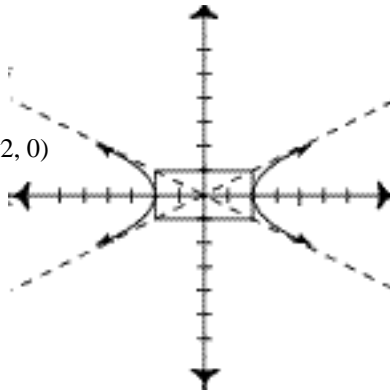
vertices: (3, 0) and (-3, 0)



3. center (0,0)

$a = 2$, $b = 1$

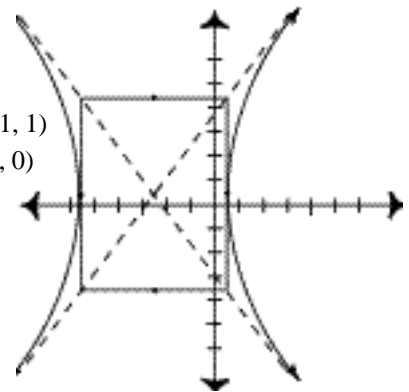
vertices: (2, 0) and (-2, 0)



4. center (-5,1)

$a = 6$, $b = 8$

vertices: (1, 1) and (-11, 1)
(6, 0) and (-6, 0)



5. center (-1, 2)

$a = 2$, $b = 2\sqrt{3}$

vertices: (2, 0) and (-2, 0)

