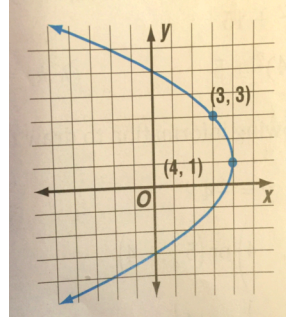


PARABOLAS

1. Write $y = 2x^2 + 12x + 14$ in the form $y = a(x - h)^2 + k$. Name the vertex, the axis of symmetry, and the direction of opening of the parabola.
2. Write $x = y^2 + 14y + 20$ in the form $x = a(y - k)^2 + h$. Name the vertex, the axis of symmetry, and the direction of opening of the parabola.

3. Write an equation for the parabola shown.

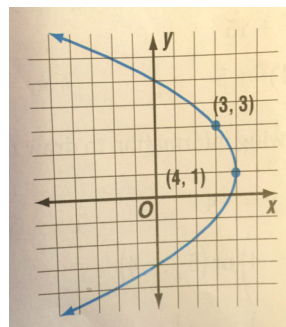


4. Write an equation of the parabola with its vertex at $(5, -1)$ and its focus at $(3, -1)$. Then draw the graph.
5. Graph the following parabolas. Find the vertex, axis of symmetry, focus, directrix, direction of opening and length of latus rectum.
 - a. $3x - y^2 = 8y + 31$
 - b. $y = \frac{1}{2}x^2 + 12x - 8$

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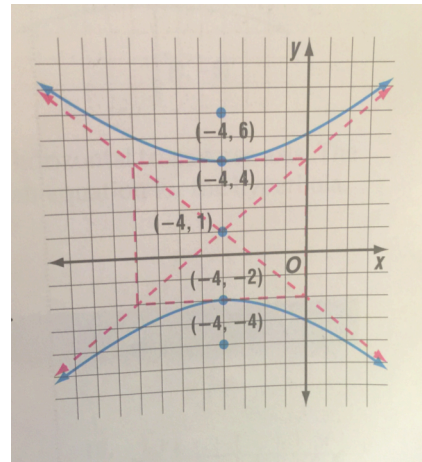
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HYPERBOLAS

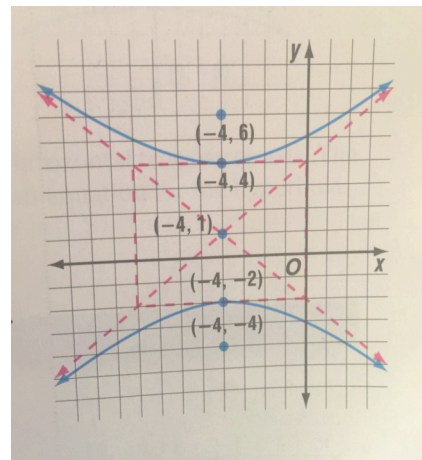
1. Draw the graph of $\frac{(x+2)^2}{16} - \frac{(y-5)^2}{25} = 1$.
2. Write the equation of the hyperbola shown.



3. Write an equation of a hyperbola with foci at $(6,0)$ and $(-6, 0)$ if the length of the traverse axis is 8 units. Then draw the graph.
 4. The graph of $25x^2 - 4y^2 + 100x + 24y - 36 = 0$ is a hyperbola.
 - a. Find the standard form of the equation.
 - b. Find the coordinates of the vertices and foci.
 - c. Find the equations of the asymptotes.
 - d. Draw the graph.
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