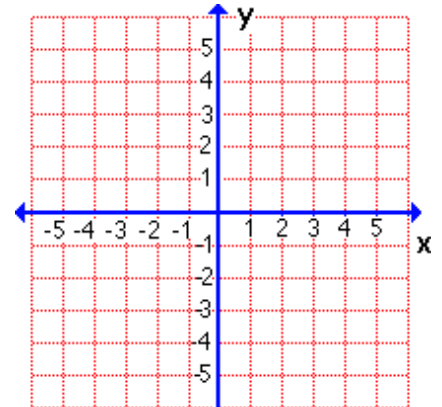


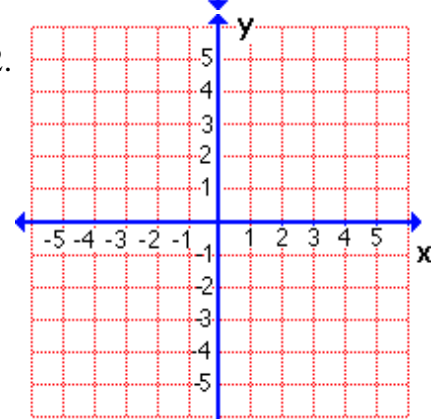
Conic Sections Worksheet

Name _____

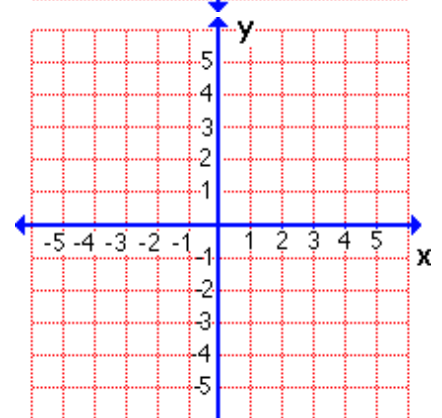
1. Give an equation of the parabola with focus $(1, 1)$ and directrix $y = 3$. Then draw the curve with the vertex, focus and directrix.



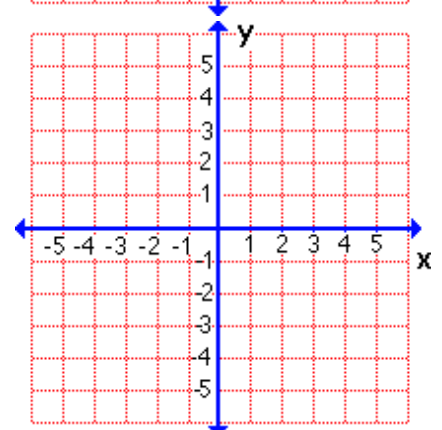
2. Give an equation of the parabola passing through $(0, -2)$ that has vertex $(-1, 2)$ and axis of symmetry $y = 2$. Draw the curve with its focus and directrix.



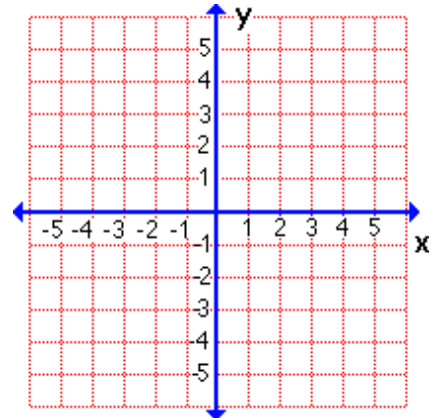
3. Give an equation of the ellipse that has foci $F_1(0,2)$ and $F_2(4,2)$ and vertices $V_1(-1, 2)$ and $V_2(5, 2)$. Then sketch it with its foci and the eccentricity and the other vertices.



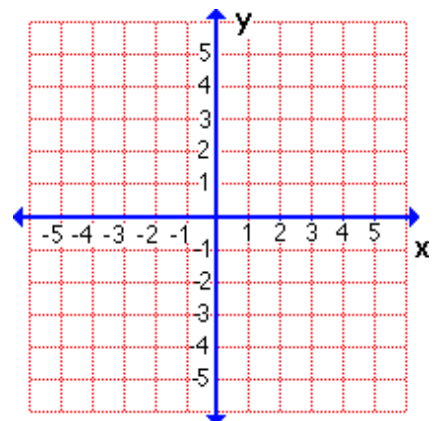
4. Sketch the hyperbola $x^2 - 9y^2 - 4x - 18y = 14$. Find the vertices, foci, asymptotes and eccentricity.



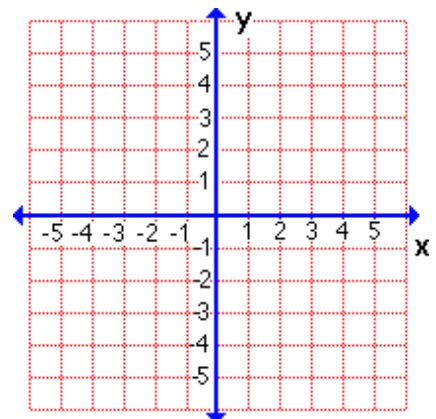
5. Find an equation for the parabola with axis of symmetry $x = 0$ that passes through the points $(1, 4)$ and $(2, 7)$.



6. Find an equation for the hyperbola with foci $(3, 0)$ and $(-3, 0)$ and asymptotes $y = \pm x$. Find the eccentricity.



7. Find an equation for the hyperbola with foci $(0, 5)$ and $(0, -5)$ and asymptotes $y = \pm \frac{3}{4}x$. Find the eccentricity.



8. Sketch the graph of $x^2 - y^2 = 1$? Find the vertices, foci, asymptotes and eccentricity.

