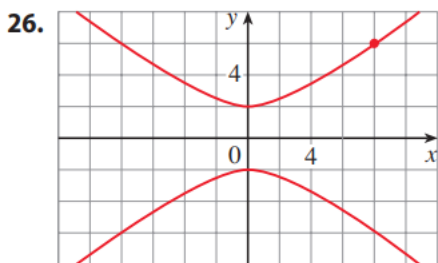
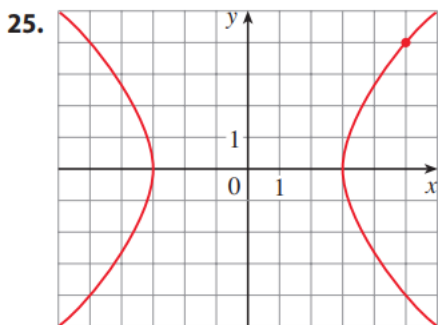


Worksheet 11
11/1/2023

1. Find an equation for the hyperbola. Then find the foci and asymptotes.



2. Sketch the graph and find an equation for the conic that satisfies the given conditions.

(a) Parabola, vertex $(0, 0)$, focus $(1, 0)$

(b) Parabola, vertex $(-4, 0)$, directrix $x = 2$

(c) Ellipse, foci $(0, -1)$, $(8, -1)$, vertex $(9, -1)$

(d) Hyperbola, vertices $(\pm 3, 0)$, asymptotes $y = \pm 2x$

3. Identify the type of conic section whose equation is given and find the vertices, foci, eccentricity, directrix

(a) $x^2 = 4y - 2y^2$

(b) $3x^2 - 6x - 2y = 1$

(c) $x^2 - 2x + 2y^2 - 8y + 7 = 0$