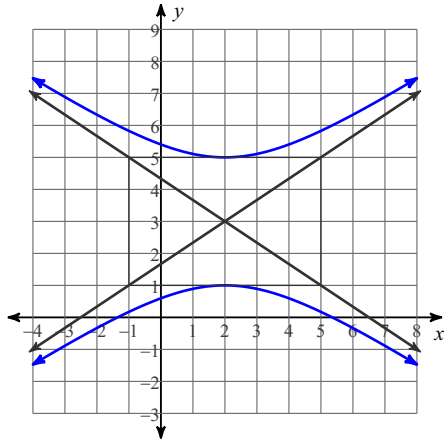


## 14.4.D2 ~ Hyperbolas: Writing Equations

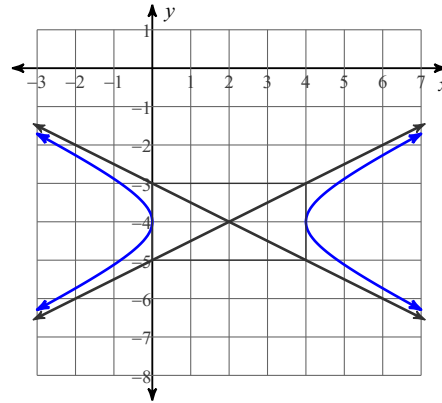
Past due on \_\_\_\_\_ Period \_\_\_\_\_

**Write the standard form equation of the hyperbola whose graph is shown.**

1)



2)

**Write the equation of the hyperbola with the following characteristics.**

3) Vertices:  $(17, -2), (1, -2)$   
 Conjugate Axis is 6 units long

4) Center at  $(6, 10)$   
 Transverse axis is horizontal and 8 units long  
 Conjugate axis is 16 units long

5) Vertices:  $(-1, 22), (-1, -2)$   
 Foci:  $(-1, 25), (-1, -5)$

6) Vertices:  $(-9, 2), (-9, -10)$   
 Distance from Center to Focus =  $\sqrt{157}$

7) Foci:  $(3, -10), (-17, -10)$   
Conjugate Axis is 12 units long

8) Vertices:  $(16, -7), (-12, -7)$   
Endpoints of Conjugate Axis:  $(2, 4)$   
 $(2, -18)$

9) Vertices:  $(-1, 0), (-1, -12)$   
Foci:  $(-1, 4), (-1, -16)$

10) Foci:  $(2, 3), (-8, 3)$   
Endpoints of Conjugate Axis:  $(-3, 6)$   
 $(-3, 0)$

11) Vertices:  $(10, -5), (-4, -5)$   
Endpoints of Conjugate Axis:  $(3, 7)$   
 $(3, -17)$

12) Vertices:  $(2, -6), (-4, -6)$   
Foci:  $(4, -6), (-6, -6)$