

AA2 4.3  
Hyperbolas

Name KEY - POSTER

$y = \pm \frac{5}{6}(x-2) + 3$  Date \_\_\_\_\_

Hour \_\_\_\_\_

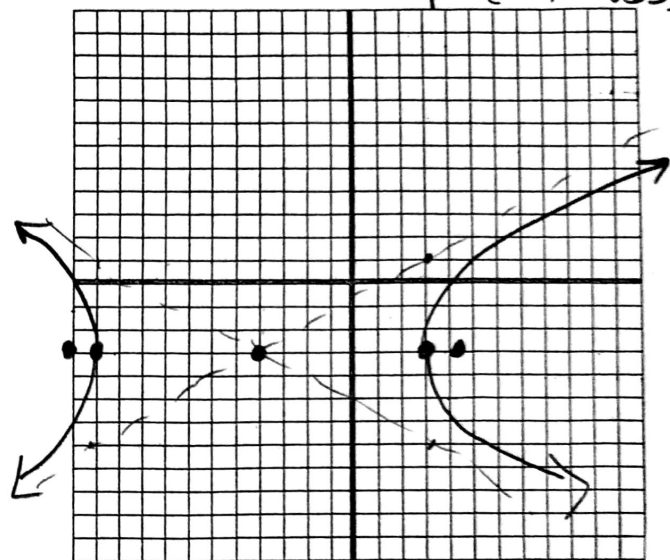
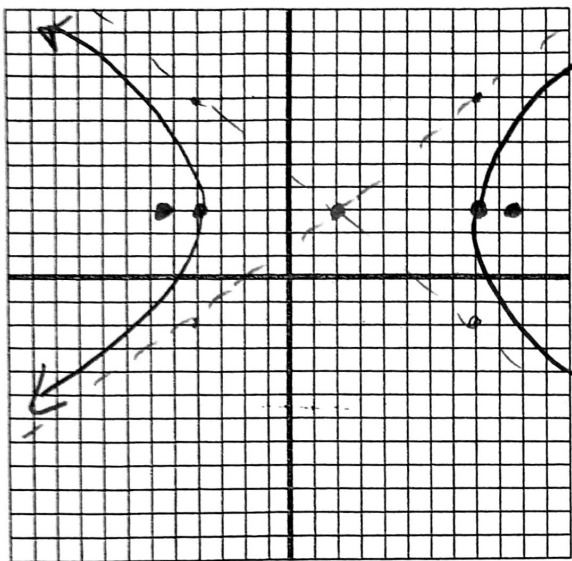
Graph

1.  $\frac{(x-2)^2}{36} - \frac{(y-3)^2}{25} = 1$

C (2, 3)  
V (-4, 3) & (8, 3)  
F (2 ± √61, 3)

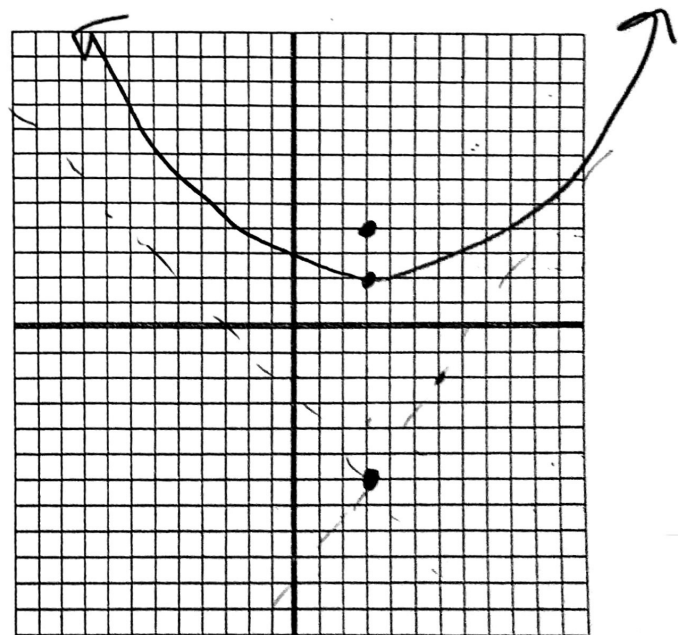
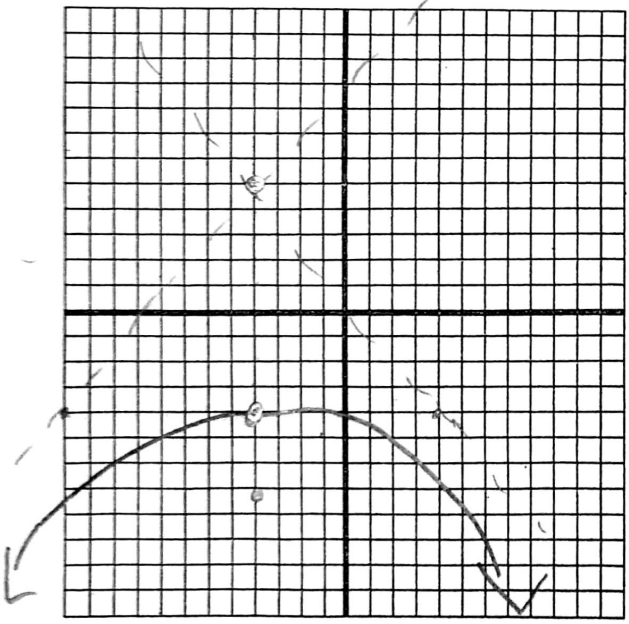
2.  $\frac{(x+4)^2}{49} - \frac{(y+3)^2}{16} = 1$

$y = \pm \frac{4}{7}(x+4) - 3$   
C (-4, -3)  
V (-11, -3) & (3, -3)  
F (-4 ± √65, -3)



3.  $\frac{(y-5)^2}{81} - \frac{(x+4)^2}{64} = 1$

4.  $\frac{(y+6)^2}{64} - \frac{(x-3)^2}{36} = 1$

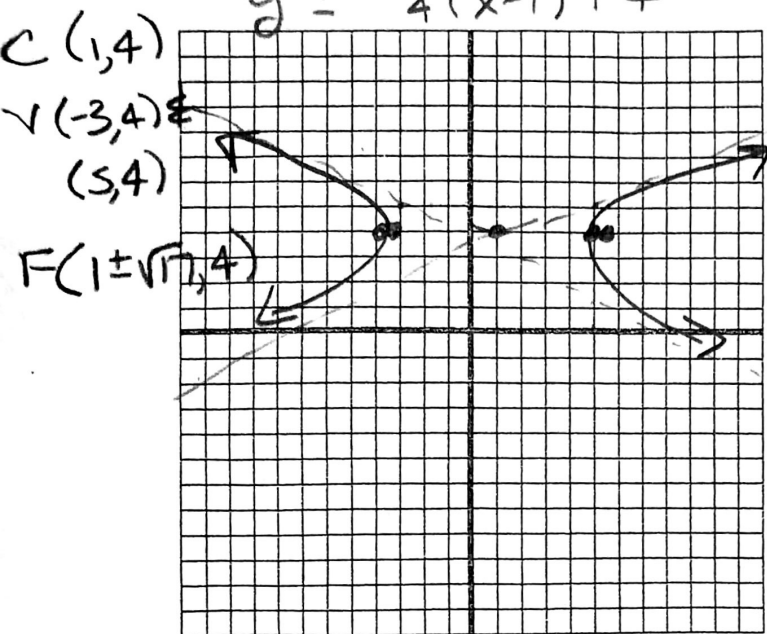


C (-4, 5)  
V (-4, 14) & (-4, -4)  
F (-4, 5 ± √145)  
 $y = \pm \frac{9}{8}(x+4) + 5$

C (3, -6)  
V (3, 2) & (3, -14)  
F (3, -6 ± √145)  
 $y = \pm \frac{4}{3}(x-3) - 6$

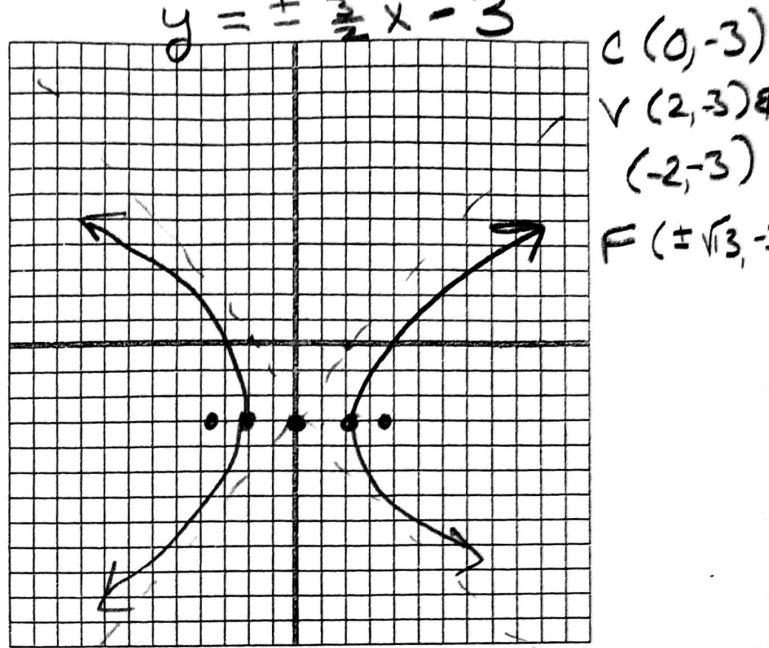
5. 
$$\frac{(x-1)^2}{16} - (y-4)^2 = 1$$
  

$$y = \pm \frac{1}{4}(x-1) + 4$$



6. 
$$\frac{x^2}{4} - \frac{(y+3)^2}{9} = 1$$
  

$$y = \pm \frac{3}{2}x - 3$$



Write the equation of the hyperbola in standard form.

7.  $C(0, 0); a = 4, b = 2$ , horizontal transverse axis

$$\frac{x^2}{16} - \frac{y^2}{4} = 1$$

8.  $C(3, 2); a = 6, b = 1$ , horizontal transverse axis

$$\frac{(x-3)^2}{36} - \frac{(y-2)^2}{1} = 1$$

9.  $C(-2, 1); a = 5, c = 8$ , vertical transverse axis

$$\frac{(y-1)^2}{25} - \frac{(x+2)^2}{39} = 1$$

10.  $C(4, -3); a = 8, c = 12$ , vertical transverse axis

$$\frac{(y+3)^2}{64} - \frac{(x-4)^2}{80} = 1$$