

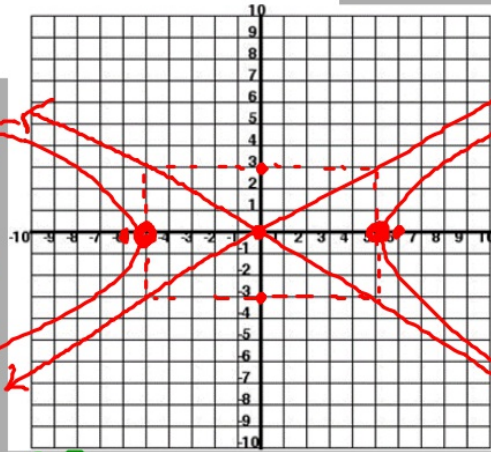
10.5 Review - Warm - up

Graph the following hyperbolas.

1. $\frac{x^2}{25} - \frac{y^2}{9} = 1$

Center (0,0)

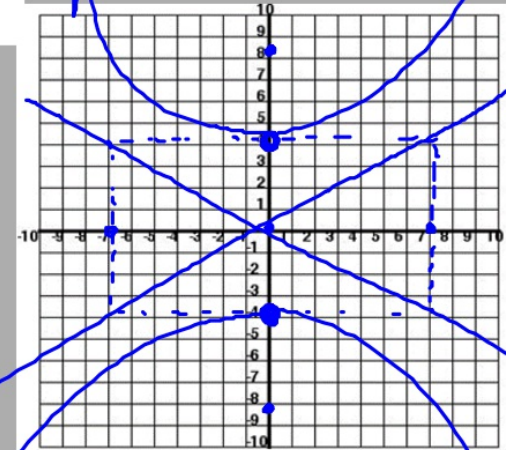
$a^2=25$ $b^2=9$
 $a=5$ $b=3$
 (5,0)
 (-5,0)
foci?
 $c^2=a^2+b^2$
 $c^2=25+9$
 $\sqrt{c^2}=\sqrt{34}$
 $c=5.8$



2. $\frac{y^2}{16} - \frac{x^2}{49} = 1$

Center (0,0)

$a^2=16$ $b^2=49$
 $a=4$ $b=7$
 (0,4)
 (0,-4)



3. Write an equation for a hyperbola centered at (0,0) that has the vertex of (6,0) and (-6,0) and one focus of (8,0).

$a=6$
 $a^2=36$
 (x-axis)
 major

$c=8$ $c^2=64$
 $c^2=a^2+b^2$
 $64=36+b^2$
 $-36 \quad -36$

 $28=b^2$

$\frac{x^2}{36} - \frac{y^2}{28} = 1$ $c=8.1$

foci?
 $c^2=a^2+b^2$
 $c^2=16+49$
 $\sqrt{c^2}=\sqrt{65}$