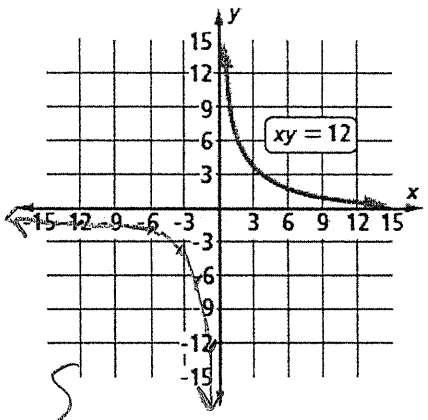
FST 3-4 Warm up

Activity 2

The part of the graph of $xy = 12$ that is in Quadrant I is shown at the right.



Step 1 Test to see if the equation is symmetric with respect to the y-axis, the x-axis, or the origin.

Step 2 Use the results to complete the graph.

y-axis

$(x,y) \rightarrow (-x,y)$

$(x)(y) = 12 \quad (-x)(y) = 12$

$xy = 12 \neq -xy = 12$

* NOT symmetric w/ y

x-axis

$(x,y) \rightarrow (x,-y)$

$xy = 12 \quad x(-y) = 12$

$xy = 12 \neq -xy = 12$

* NOT symmetric w/ x

origin

$(x,y) \rightarrow (-x,-y)$

$xy = 12 \quad (-x)(-y) = 12$

$xy = 12 = xy = 12$

* YES, symmetric to origin

Exit

Example 3

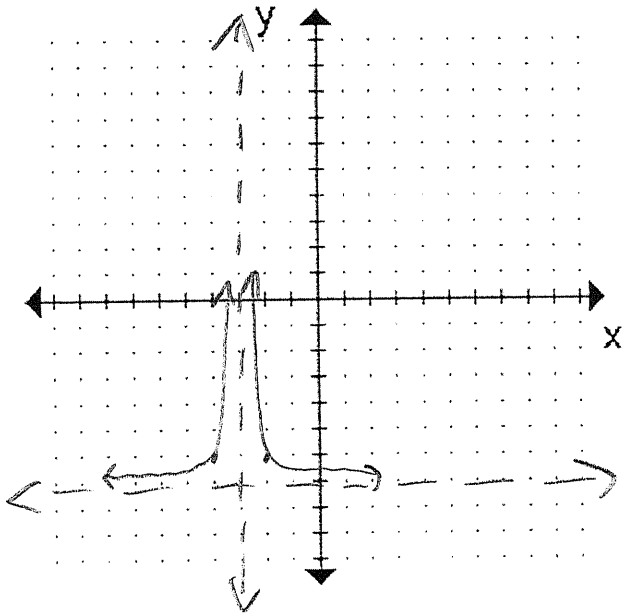
Consider the function F with $y = F(x) = \frac{1}{(x+3)^2} - 7$.

a. Give equations for the asymptotes of its graph.

b. Describe any lines or points of symmetry.

Left 3

Down 7



a) $x = -3$

$y = -7$

b) Line of symmetry

$x = -3$