

NAME: _____

1. Explain how the vertices of the hyperbola relate to its domain.
2. Describe how you could tell whether or not an equation is the equation of a hyperbola.
3. Write an equation of a hyperbola that has y -intercepts but no x -intercepts.

Answers may vary. Sample: If the transverse axis is $y = 0$, the vertices show which values of x are in the domain. If the vertices are $(-a, 0)$ and $(a, 0)$, the domain is $x \leq -a$ or $x \geq a$. If the transverse axis is

[1] $x = 0$, the domain is the set of real numbers.

Answers may vary. Sample: If the equation is a hyperbola, the x^2 and y^2 terms have different signs

[2] when they are on the same side of the equation.

[3] Answers may vary. Sample: $2y^2 - x^2 = 1$
