Flashcards: Graphing a Hyperbola

Directions: Find the equations of the following graphs.

- 1. Hyperbola opening right and left centered at (0, 0) with vertices (1, 0) and (negative 1, 0) and covertices at (0, 3) and (0, negative 3).
- 2. Hyperbola opening up and down, centered at (1, 0) with vertices (1, 2) and (1, negative 2) and covertices at (negative 2, 0) and (4, 0).
- 3. Hyperbola opening up and down centered at (0, 2) with vertices (0, 7) and (0, negative 3) and covertices at (negative 1, 2) and (1, 2).
- 4. Hyperbola opening right and left centered at (negative 3, 1) with vertices (negative 1, 1) and (negative 5, 1) and co-vertices at (negative 3, 5) and (negative 3, negative 3).

## Answers:

- 1. x squared divided by 1 minus y squared divided by 9 equals 1.
- 2. y squared divided by 4 minus x minus 1 quantity squared divided by 9 equals 1.
- 3. y minus 2 quantity squared divided by 25 minus x squared divided by 1 equals 1.
- 4. x plus 3 quantity squared divided by 4 minus y minus 1 quantity squared divided by 16 equals 1.