Name _____   Date _____

Equations of Hyperbolas - Matching Worksheet

Match the word problems to their answers. Write the letter of the answer that matches the problem.

____ 1. Find an equation for the hyperbola with center (8, 10), vertex (0, 10), and focus (18, 10).

a. $\dfrac{x^2}{36} - \dfrac{(y-8)^2}{64} = 1$

____ 2. Find an equation for the hyperbola with center (3, 4), vertex (0, 4), and focus (7, 4).

b. $\dfrac{(x+0.5)^2}{20.25} - \dfrac{y^2}{22} = 1$

____ 3. Find an equation for the hyperbola with center (0, 9), vertex (4, 9), and focus (6, 9).

c. $\dfrac{(x+3)^2}{25} - \dfrac{y^2}{75} = 1$

____ 4. Find an equation for the hyperbola with center (0, 8), vertex (6, 8), and focus (10, 8).

d. $\dfrac{(x-8)^2}{64} - \dfrac{(y-10)^2}{36} = 1$

____ 5. Find an equation for the hyperbola with center (8, 11), vertex (9, 11), and focus (0, 11).

e. $\dfrac{(x-8)^2}{1} - \dfrac{(y-11)^2}{63} = 1$

____ 6. Find an equation of the hyperbola with x-intercepts at $x = -5$ and $x = 4$, and foci at $(-7, 0)$ and $(6, 0)$.

f. $\dfrac{(x-3)^2}{9} - \dfrac{(y-4)^2}{7} = 1$

____ 7. Find an equation of the hyperbola with x-intercepts at $x = -8$ and $x = 6$, and foci at $(-9, 0)$ and $(7, 0)$.

g. $\dfrac{(x+1)^2}{49} - \dfrac{y^2}{15} = 1$

____ 8. Find an equation of the hyperbola with x-intercepts at $x = -8$ and $x = 2$, and foci at $(-13, 0)$ and $(7, 0)$.

h. $\dfrac{x^2}{16} - \dfrac{(y-9)^2}{20} = 1$

____ 9. Find an equation of the hyperbola with x-intercepts at $x = -5$ and $x = 5$, and foci at $(-10, 0)$ and $(10, 0)$.

i. $\dfrac{x^2}{25} - \dfrac{y^2}{75} = 1$