

Answer on Question #71350, Math / Calculus

What is the length of the conjugate axis?

$$\frac{(y - 2)^2}{16} - \frac{(x + 1)^2}{144} = 1$$

Solution

The general equation for vertical hyperbola

$$\frac{(y - k)^2}{a^2} - \frac{(x - h)^2}{b^2} = 1$$

The conjugate axis of vertical hyperbola is  $y = k$ .

Length of conjugate axis =  $2b$ .

We have that  $k = 2, h = -1, a = 4, b = 12$ .

Length of conjugate axis =  $2b = 2(12) = 24$ .

Answer: Length of conjugate axis = 24.

Answer provided by <https://www.AssignmentExpert.com>