# Answer to Question #89491 – Math – Calculus

## Question

What are the equations for the asymptotes of this hyperbola? y^2/36-x^2/121=1

## Solution

$$\frac{y^2}{36}-\frac{x^2}{121}=1$$

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

with center $(h,k)$, semi-axis $a$ and semi-conjugate-axis $b$.

$$\frac{(y-0)^2}{6^2}-\frac{(x-0)^2}{11^2}=1$$

We get,

$(h,k)=(0,0), a=6, b=11$

For hyperbola the asymptotes are $y=\pm\frac{a}{b}(x-h)+k$

$$\therefore y=\frac{6}{11}(x-0)+0, \qquad y=-\frac{6}{11}(x-0)+0$$

$$y=\frac{6x}{11}, y=-\frac{6x}{11}.$$