Answer on Question #57228 – Math – Calculus
Question

The foci for the hyperbola
(x-1)^2 (y+3)^2
-------- - --------- = 1 are (1 + √34, -3) and (1 - √34, -3).
25 9
A: True
B: False

Solution

Given
$a^2=25$
$b^2=9$
Then
$c^2 =a^2 + b^2$,
$c^2=25+9=34$,
$c=\sqrt{34}$
The center is point O(1;-3).
Since the hyperbola is horizontal, the x-coordinates of foci will be c units to the left and to the right from the center, the y-coordinate of foci keeps the same.
So, the foci are $(1 + \sqrt{34}, -3)$ and $(1 - \sqrt{34}, -3)$.

Answer: A: True.