## Answer on Question \#57278 - Math - Analytic Geometry

If you add the lengths of the foci radii of an ellipse, what other values will you produce?
A: The length of the minor axis
B: The length of the major axis
$C$ : The value of $b$
$D$ : The value of a

## Solution

Formally, an ellipse can be defined as follows:

For two given points, the foci, an ellipse is the locus of points such that the sum of the distances to each focus is constant. It is the length of the major axis.

The sum $L_{1}+L_{2}$ is constant, no matter where point P is taken on the ellipse.
Horizontal ellipse: $L_{1}+L_{2}=2 a$
Vertical ellipse: $L_{1}+L_{2}=2 b$


Answer: B: The length of the major axis.

