**Answer on Question #77364, Physics / Mechanics | Relativity**
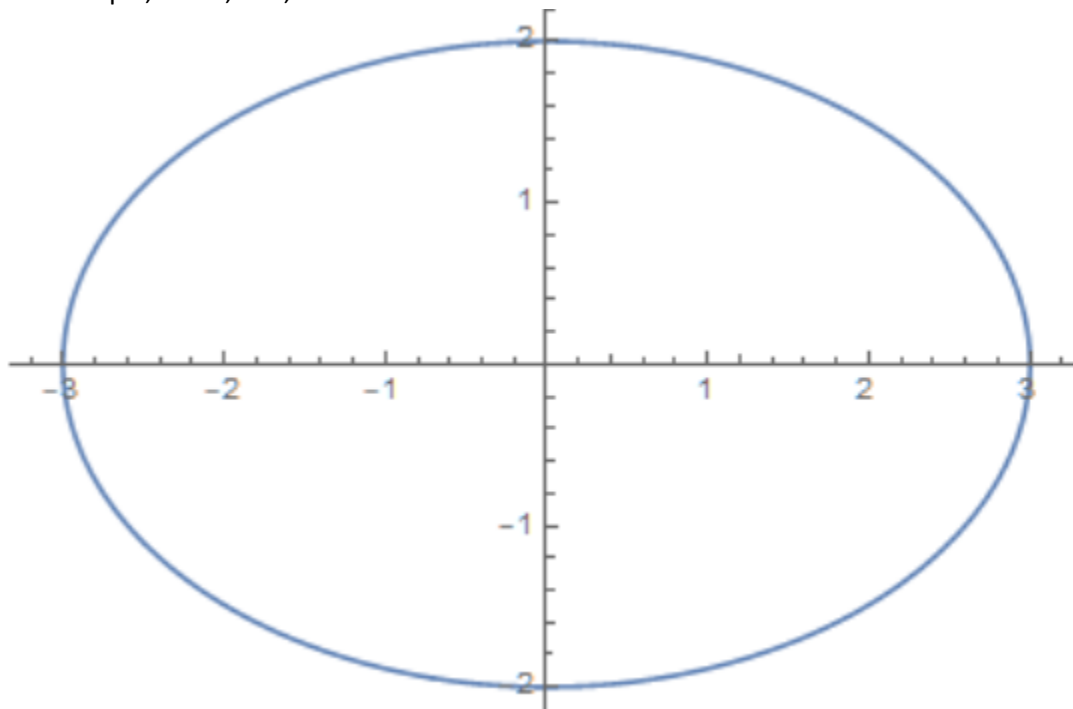
If a particle moves in xy plane represented by $r = a \sin \omega t \, \vec{\imath} + b \cos \omega t * \vec{\jmath}$. Here a is greater than b.
Than what is the trajectory of the path.

**Answer:**

In parametric form, equations of motion are:
$$\begin{cases} x(t) = a \sin \omega t \\ y(t) = b \cos \omega t \end{cases}$$

These are parametric form of ellipse equation, with **a**- semi-major axis, **b**-semi-minor axis
For example, if a=3, b=2, w=1:



**Answer:** Ellipse trajectory

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