Answer on Question #48331 – Math – Calculus

Question.

Trace the curve

$x = a(t - \sin t)$

$y = a(1 - \cos t)$

Solution.

$t = 0 \to x = 0; y = 0$

$y \in [0; 2a]$

$t = 2\pi n, n \in Z \to y = 0$ is a local minimum

$t = \pi(2n + 1), n \in Z \to y = 2a$ is a local maximum.

$T = 2\pi$ is a period of this function

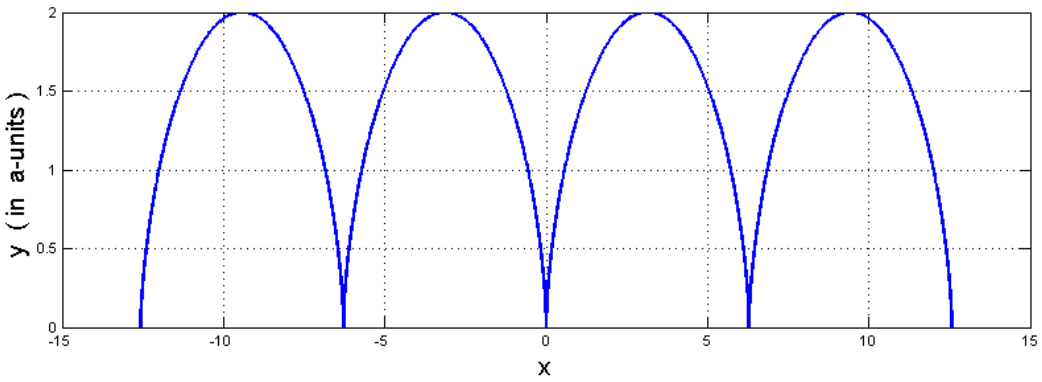

Fig.1. The parametric curve.

Answer.