Fenced In

(233, 89)   (377, 89)

(0, 0)   (144, 0)
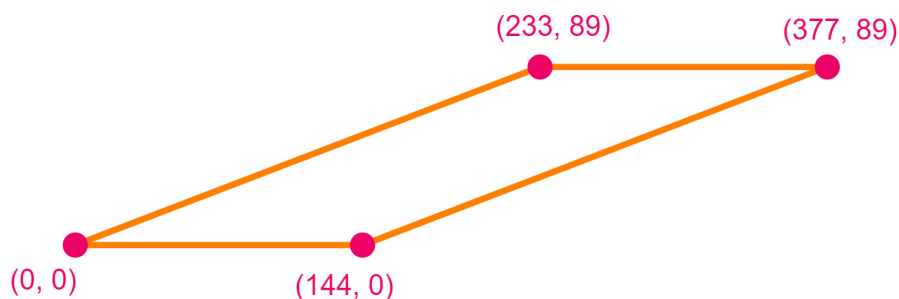
Problem. Determine the number of grid points (that is, points whose coordinates are integers) which lie strictly within the interior of the parallelogram.

Hint. What about the same question for rectangles or right triangles (with horizontal bases)? How are these related to this parallelogram?