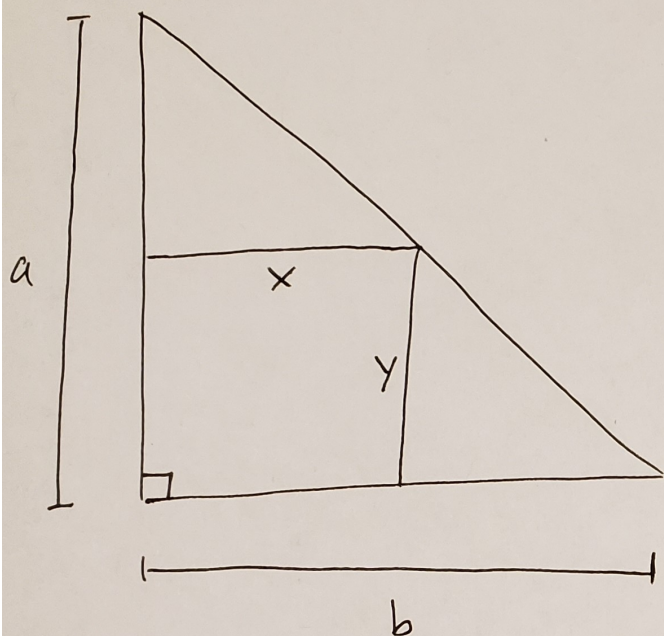


Maximize the area of a rectangle inscribed in a right triangle with legs of side length a and b as shown in the figure.



Question: For what values x and y maximizes the area of the rectangle?

(a) $x = \frac{b}{4}, y = \frac{a}{4}$

(b) $x = \frac{b}{2}, y = \frac{a}{2}$

(c) $x = \frac{b}{4}, y = a$

(d) $x = \frac{b}{2}, y = \frac{a}{4}$

(e) $x = \frac{b}{4}, y = \frac{a}{2}$