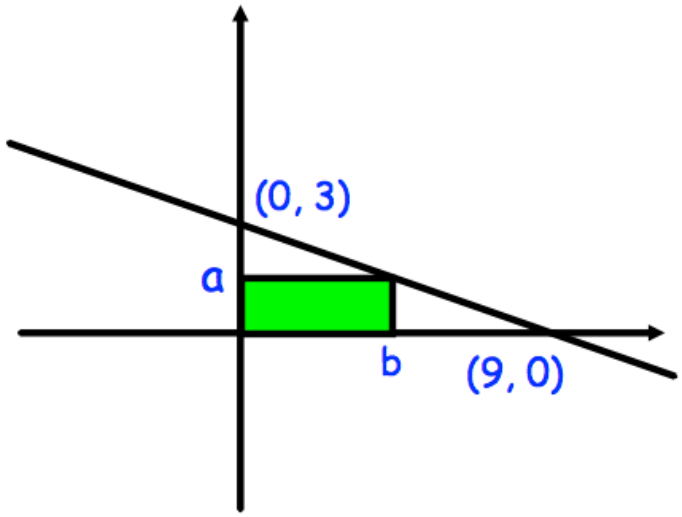
July 11th



Intuition suggests that the maximum area is at the midpoint of (0,3) and (9,0) which is **(4.5, 1.5)**, which gives an area of **6.75**

To test this….

The equation of the line is $x + 3y = 9$

Hence $b + 3a = 9$

Therefore $b = 9 - 3a$

So the area of the rectangle is given by

$$a(9 - 3a) = 9a - 3a^2$$

Completing the square

$$-3(a - 1.5)^2 + 6.75$$

Which confirms that the maximum value of area occurs a=1.5, and is 6.75