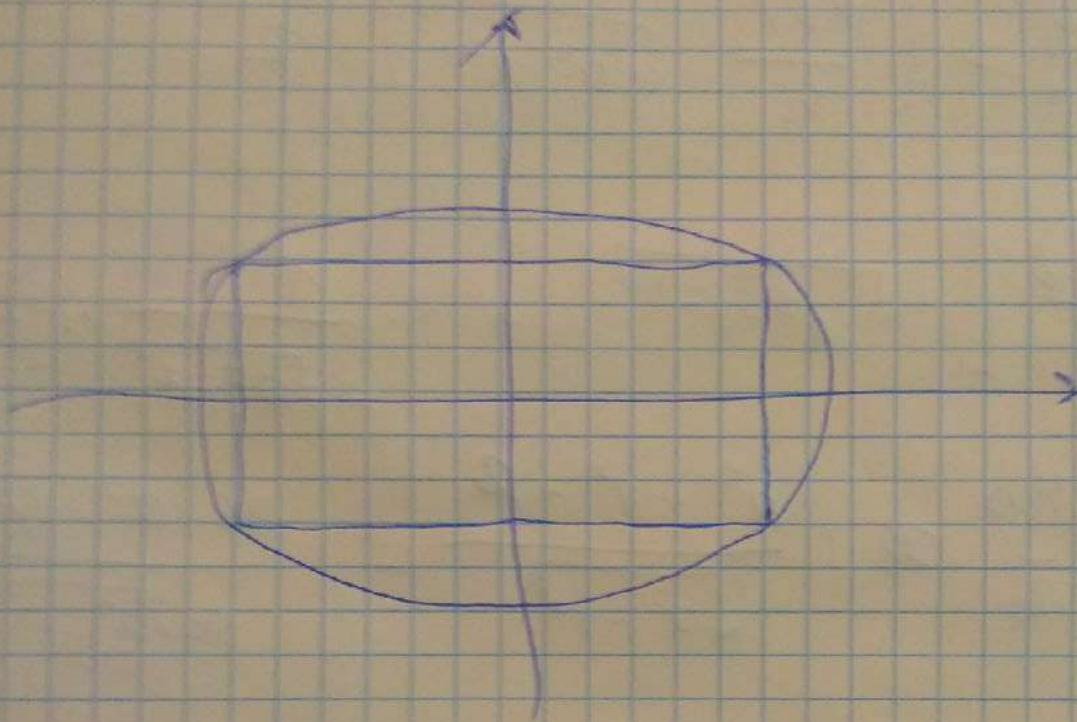


N2

$$S = 2x \cdot 2y = 4xy$$



и выразим из ур-я эллипса;

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1 \Rightarrow \frac{y^2}{b^2} = 1 - \frac{x^2}{a^2} \Rightarrow$$

$$\Rightarrow y^2 = \frac{b^2}{a^2} (a^2 - x^2) \Rightarrow y = \pm \frac{b}{a} \sqrt{a^2 - x^2}$$

$$S = 4 \times y = \frac{4bx}{a} \sqrt{a^2 - x^2}$$

$$S'_x = \left(\frac{4bx}{a} \sqrt{a^2 - x^2} \right)' =$$

$$= \frac{4b}{a} \left[\sqrt{a^2 - x^2} + x \cdot \frac{1}{2\sqrt{a^2 - x^2}} \cdot (-2x) \right]$$

$$= \frac{4b}{a} \cdot \frac{a^2 - x^2 - x^2}{\sqrt{a^2 - x^2}} = \frac{4b(a^2 - 2x^2)}{a\sqrt{a^2 - x^2}}$$

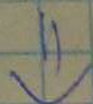
$$a^2 - 2x^2 = 0 \Rightarrow x = \frac{a}{\sqrt{2}}$$

$$y = \frac{b}{a} \sqrt{a^2 - x^2} = \frac{b}{a} \sqrt{a^2 - \frac{a^2}{2}}$$

$$= \frac{b}{\sqrt{2}}$$

$$2x = a\sqrt{2}$$

$$2y = b\sqrt{2}$$



$$S_{\max} = 2ab$$

answer: $S_{\max} = 2ab$