1. $2x + 2y = 144 \Rightarrow x = \frac{144 - 2y}{2} = 72 - y$

$S = x \cdot y \Rightarrow (72 - y) \cdot y$

$S' = 72 - 2y \Rightarrow \underline{y = 36}$ - о. экстремума

$\underline{x = 36}$

2. $y' = \frac{|x|}{x} \Rightarrow \underline{x = 0, \text{ min}}$

$y' = 3x^2 \Rightarrow \underline{x = 0, \text{ min}}$

$y' = e^x \Rightarrow$ экстремумов нет

$y' = 3x^2 - 5 \Rightarrow \underline{x = \pm\sqrt{5/3}}$, $-\sqrt{\frac{5}{3}}$ loc max, $-\sqrt{\frac{5}{3}}$ loc min