



$$S = \frac{a^2 \sqrt{3}}{4}$$

$$S_{k_n} = k_n \cdot \pi \cdot r_k^2$$

$$r_k = \frac{a - x_n}{2n}$$

$$S_{k_n} = \frac{n(n+1)}{2} \cdot \pi \cdot r_k^2 = \frac{\pi \cdot n(n+1) (a - x_n)^2}{8n^2}$$

$$\lim_{n \rightarrow \infty} \frac{S_{k_n}}{S} = \lim_{n \rightarrow \infty} \frac{\pi (n+1) (a - x_n)^2}{8n \cdot \frac{a^2 \sqrt{3}}{4}} = \lim_{n \rightarrow \infty} \frac{\pi (n+1) a^2}{2 a^2 n \sqrt{3}} =$$

$$= \lim_{n \rightarrow \infty} \frac{\sqrt{3} \pi n + \sqrt{3} \pi}{6n} = \pi \frac{\sqrt{3}}{6}$$