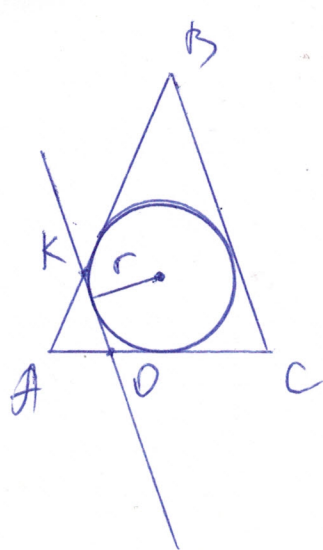




$$r = \frac{S}{p}$$

$$\frac{KO}{BC} = \frac{1}{4} \Rightarrow KO = \frac{BC}{4} = \frac{18}{4} = 4.5$$

$\triangle AKO \sim \triangle ABC$ по двум углам $\Rightarrow$

$$\frac{AO}{AC} = \frac{1}{4} \text{ и } AK = KO = 4.5$$

Уг. периметр

$$KB + BC + OC + KO = 45 \Rightarrow$$

$$KB + BC + OC + AK = 45$$

$$18 + 18 + OC = 45$$

$$OC = 9$$

$$\text{также } OA = \frac{1}{4} AC \Rightarrow OC = \frac{3}{4} AC \Rightarrow AC = 9 \cdot \frac{4}{3} = 12$$

$$P_{\triangle ABC} = \frac{18 \cdot 2 + 12}{2} = 24$$

$$S = \sqrt{p(p-a)(p-b)(p-c)} = \sqrt{24 \cdot (24-18) \cdot (24-18) \cdot (24-12)} =$$

$$= \sqrt{24 \cdot 6 \cdot 6 \cdot 12} = 6 \cdot 12 \cdot \sqrt{2} = 72\sqrt{2}$$

$$r = \frac{72\sqrt{2}}{24} = 3\sqrt{2}$$