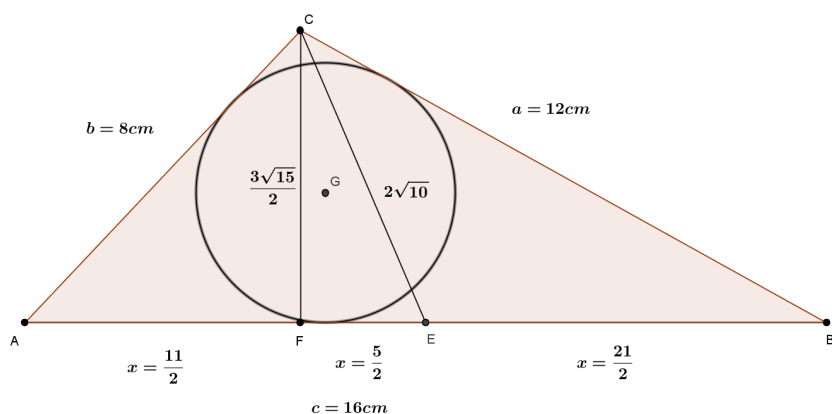


5. U trouglu ABC je dužina stranice  $c=16\text{cm}$ , visine  $h_c = \frac{3\sqrt{15}}{2}\text{cm}$  i težišne duži  $t_c = 2\sqrt{10}\text{cm}$ . Izračunaj površinu kruga upisanog u ovaj trougao.



$$x^2 = (2\sqrt{10})^2 - \left(\frac{3\sqrt{15}}{2}\right)^2$$

$$x^2 = 40 - \frac{135}{4}$$

$$x^2 = \frac{25}{4}$$

$$x = \frac{5}{2}$$

$$b^2 = \left(\frac{11}{2}\right)^2 + \left(\frac{3\sqrt{15}}{2}\right)^2$$

$$b^2 = \frac{256}{4}$$

$$b = 8\text{cm}$$

$$a^2 = \left(\frac{21}{2}\right)^2 + \left(\frac{3\sqrt{15}}{2}\right)^2$$

$$a^2 = \frac{576}{4}$$

$$a = 12\text{cm}$$

$$s = \frac{a+b+c}{2} \quad \text{Ovo je poluobim trougla}$$

$$s = 18\text{cm}$$

$$P = \frac{c \cdot h_c}{2}$$

$$P = \frac{16 \cdot \frac{3\sqrt{15}}{2}}{2}$$

$$P = 12\sqrt{15}\text{cm}^2 \quad \text{Površina trougla}$$

Izračunavanje površine trougla pomoću poluobima i poluprečnika upisanog kruga u trouglu.

$$P = r \cdot s$$

$$r = \frac{P}{s}$$

$$r = \frac{12\sqrt{15}}{18}$$

$$r = \frac{2\sqrt{15}}{3}$$

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$$P = r^2 \pi$$

$$P = \left( \frac{2\sqrt{15}}{3} \right)^2 \pi$$

$$P = \frac{20\pi}{3} \text{ cm}^2$$

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