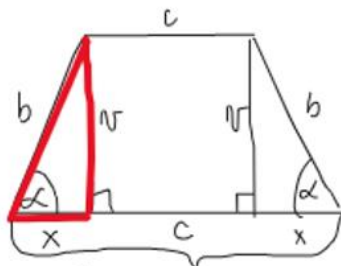


5. Duljina kraće osnovice jednakokrakog trapeza je 3 cm, visina 10 cm, a kut uz duđu osnovicu je  $50^\circ$ . Odrediti duljine kraka i duže osnovice, opseg i površinu trapeza.

3 (RP)



$$c = 3 \text{ cm}$$

$$h = 10 \text{ cm}$$

$$\alpha = 50^\circ$$

$$a, b, O, P = ?$$

$$\sin \alpha = \frac{h}{b}$$

$$b = \frac{h}{\sin \alpha}$$

$$b = \frac{10}{\sin 50^\circ}$$

$$b = 13.05 \text{ cm}$$

$$\tan \alpha = \frac{h}{x}$$

$$x = \frac{h}{\tan \alpha}$$

$$x = \frac{10}{\tan 50^\circ}$$

$$x = 8.39 \text{ cm}$$

$$a = c + 2x$$

$$a = 19.78 \text{ cm}$$

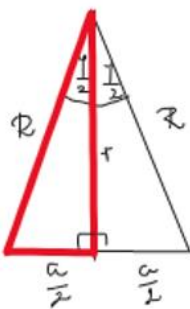
$$O = a + 2b + c = 48.88 \text{ cm}$$

$$s = \frac{a+c}{2} = 11.39 \text{ cm}$$

$$P = s \cdot h = 113.9 \text{ cm}^2$$

6. Izračunati opseg i površinu pravilnog sedmerokuta koji je opisan kružnici polumjera 5 dm.

3 (RP)



$$n = 7$$

$$r = 5 \text{ dm}$$

$$O_7, P_7 = ?$$

$$\gamma = \frac{360^\circ}{7} = 51^\circ 25' 43''$$

$$\frac{\gamma}{2} = 25^\circ 42' 51''$$

$$\cos \frac{\gamma}{2} = \frac{r}{R}$$

$$R = \frac{r}{\cos \frac{\gamma}{2}}$$

$$R = 5.55 \text{ dm}$$

$$\tan \frac{\gamma}{2} = \frac{\frac{a}{2}}{r}$$

$$\tan \frac{\gamma}{2} = \frac{a}{2r}$$

↳ kružnica upisana  
 $\Rightarrow r = 5 \text{ dm}$

$$a = 2r \tan \frac{\gamma}{2}$$

$$a = 4.82 \text{ dm}$$

$$O_7 = 7a = 33.74 \text{ dm}$$

$$P_7 = 7 \cdot \frac{a \cdot r}{2} = 84.95 \text{ dm}^2$$