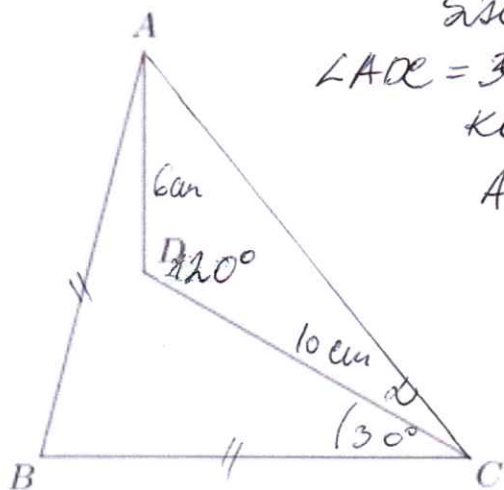


45) RE 2019 L(10p) Nelinurga ABCD külg AD = 6 cm, külg CD = 10 cm ning küljed AB ja BC on võrdsed. Selle nelinurga sisenurk BCD on 30° ja sisenurk ADC on 240°. Arvutage nelinurga ABCD külg AB ja pindala. Lõppvastused ümardage kümnendikeni.



Sisemus  $\angle ADC = 240^\circ \Rightarrow \triangle ADC$  -s

$$\angle ADC = 360^\circ - 240^\circ = 120^\circ$$

Koosinusteoreemist

$$AC = \sqrt{6^2 + 10^2 - 2 \cdot 6 \cdot 10 \cdot \cos 120^\circ} = 14 \text{ (cm)}$$

Leiame  $\triangle APC$  nurga  $d$

$$\cos d = \frac{10^2 + 14^2 - 6^2}{2 \cdot 10 \cdot 14} = \frac{260}{280}$$

$$d \approx 21^\circ 47'$$

$$\angle BCA = 30^\circ + d = 51^\circ 47'$$

$$\triangle ABC \text{ on võrdhaarne, st } \angle B = 180^\circ - 2 \cdot 51^\circ 47' = 76^\circ 26'$$

Sinusteoreemist

$$\frac{AC}{\sin 76^\circ 26'} = \frac{AB}{\sin 51^\circ 47'} \Rightarrow AB = \frac{14 \cdot \sin 51^\circ 47'}{\sin 76^\circ 26'} \approx 11,315 \text{ (cm)}$$

Küsitud pindala

$$S_{ABCD} = S_{ABC} - S_{ADC}$$

$$S_{ABC} = \frac{AB^2 \cdot \sin(\angle B)}{2} \approx 62,23 \text{ (cm}^2\text{)}$$

$$S_{ADC} = \frac{6 \cdot 10 \cdot \sin 120^\circ}{2} \approx 25,98 \text{ (cm}^2\text{)}$$

$$S_{ABCD} \approx 36,3 \text{ (cm}^2\text{)}$$

N: Külg AB on ligikaudu 11,3 cm ja nelinurga pindala 36,3 cm<sup>2</sup>