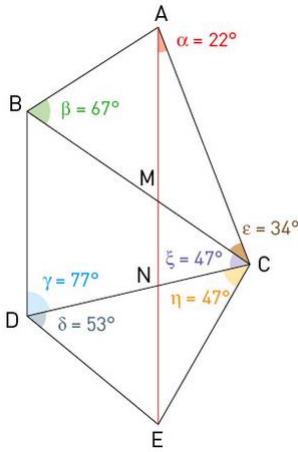


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AE = ?

AC = 10 km

$$\frac{a}{\sin \hat{A}} = \frac{b}{\sin \hat{B}} = \frac{c}{\sin \hat{C}}$$

1. AM et MC ?

Dans le triangle AMC :

$$\alpha + \varepsilon + \widehat{AMC} = 180^\circ$$

$$\widehat{AMC} = 180^\circ - 22^\circ - 34^\circ \quad \widehat{AMC} = 124^\circ$$

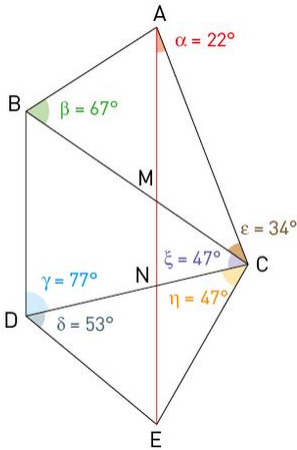
Loi des sinus :

$$\frac{AM}{\sin \varepsilon} = \frac{AC}{\sin \widehat{AMC}} \quad AM = \frac{AC}{\sin \widehat{AMC}} \times \sin \varepsilon$$

$$AM = \frac{10,0}{\sin 124} \times \sin 34 \quad AM = 6,7 \text{ km}$$

$$\frac{MC}{\sin \alpha} = \frac{AC}{\sin \widehat{AMC}} \quad MC = \frac{AC}{\sin \widehat{AMC}} \times \sin \alpha$$

$$MC = \frac{10,0}{\sin 124} \times \sin 22 \quad MC = 4,5 \text{ km}$$



2. Dans le triangle CMN :

$$\widehat{NMC} = 180^\circ - \widehat{AMN} = 180^\circ - 124^\circ = 56^\circ$$

$$\widehat{NMC} + \widehat{MNC} + \xi = 180^\circ$$

$$\widehat{MNC} = 180^\circ - \widehat{NMC} - \xi = 180^\circ - 56^\circ - 47^\circ = 77^\circ$$

3. Loi des sinus :

$$\frac{MN}{\sin \xi} = \frac{MC}{\sin \widehat{MNC}} \quad MN = \frac{MC}{\sin \widehat{MNC}} \times \sin \xi$$

$$MN = \frac{4,5}{\sin 77} \times \sin 47 \quad MN = 3,4 \text{ km}$$

$$\frac{CN}{\sin \widehat{NMC}} = \frac{MC}{\sin \widehat{MNC}} \quad CN = \frac{MC}{\sin \widehat{MNC}} \times \sin \widehat{NMC}$$

$$CN = \frac{4,5}{\sin 77} \times \sin 56^\circ \quad CN = 3,8 \text{ km}$$