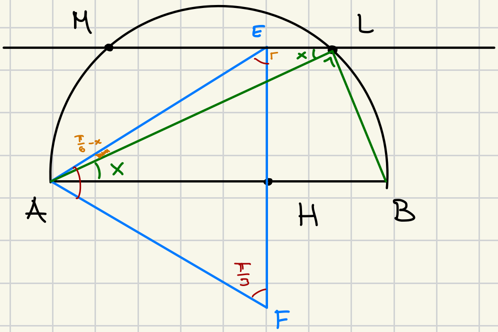
Pag 948 n 213



$ML \parallel AB$

$AB = 6$

$AE = EF = FA$

$EF = ?$ $\quad EL = ?$

$EF = EL$ equazione da risolvere

Un modo per risolverlo : ▷ AL dal triangolo $\overset{\triangle}{ALB}$ rettangolo

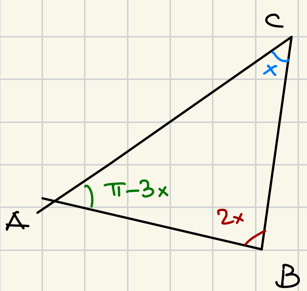
▷ $\hat{ALM} = x$ per $AB \parallel ML$ e trasversale AL

$\boxed{A\hat{E}L = \frac{\pi}{2} + \frac{\pi}{3}}$ ⟷ ▷ $E\hat{A}L = \frac{\pi}{6} - x$ poiché metà di angolo di triangolo eq. e tolgo x

Guardo $\overset{\triangle}{AEL}$ e uso teorema seno e coseno

---

214



$\hat{B} = 2\hat{C}$

$\hat{C} = x$

$AC = 2$

$AB = ?$ $\quad BC = ?$

Imponi le condizioni del problema e risolvi

▷ $AB + BC = 4\cos x$

▷ $BC = \frac{4}{3}\sqrt{3}$

Trovo AB con teorema del seno :

$$\frac{AB}{\sin x} = \frac{AC}{\sin 2x} \rightsquigarrow AB = \frac{2\sin x}{2\sin x\cos x} \rightsquigarrow AB = \frac{1}{\cos x}$$

Provo BC con teorema del seno:

$$\frac{BC}{\sin(\pi-3x)} = \frac{AB}{\sin x} \rightsquigarrow BC = \frac{AB \cdot \sin(\pi-3x)}{\sin x}$$

$$\rightsquigarrow BC = \frac{1}{\cos x} \cdot \frac{\overset{\sin(2x+x)}{\overset{\shortparallel}{\sin 3x}}}{\sin x} = \frac{1}{\cos x \sin x} \cdot \left[\sin(2x)\cos x + \sin x \cos(2x)\right]$$

$$= \frac{2\cancel{\sin x}\cos^2 x + \cancel{\sin x}\cos^2 x - \sin^{\cancel{3}\,2} x}{\cos x \cancel{\sin x}} = \frac{3\cos^2 x - \sin^2 x}{\cos x}$$

$$= \frac{4\cos^2 x - 1}{\cos x}$$