



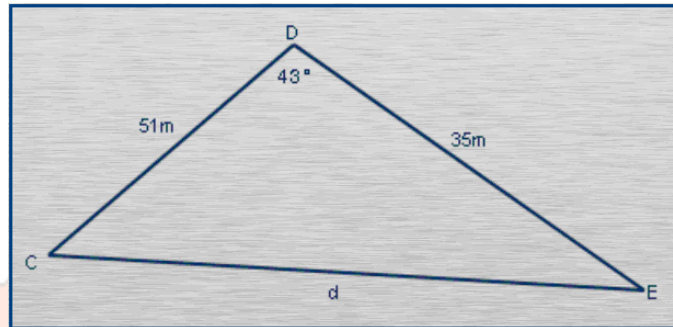
CAMI Wiskunde: Graad 11

GRAAD 11_Sinus-, cosinus- en oppervlakte reël

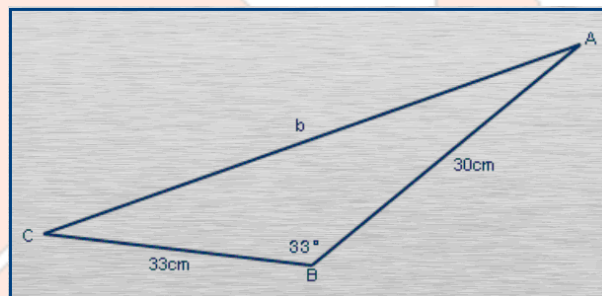
11.7 Cosinus-reël

1. Cosinus-reël

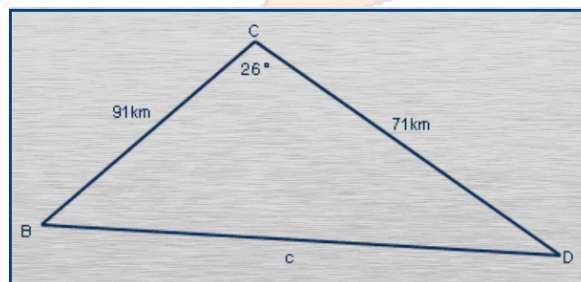
(a) Gebruik die cosinus-reël om die onbekende sy te bepaal.



(b) Gebruik die cosinus-reël om die onbekende sy te bepaal.



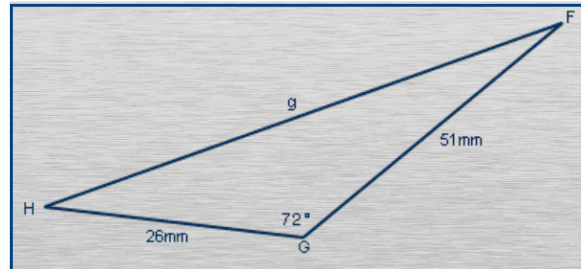
(c) Gebruik die cosinus-reël om die onbekende sy te bepaal.



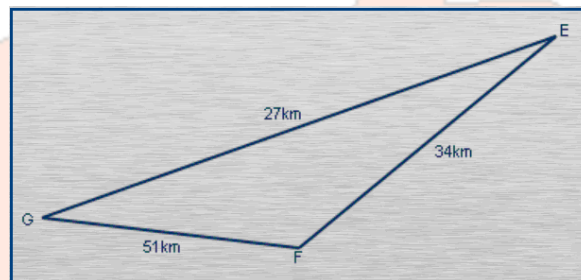


CAMI Wiskunde: Graad 11

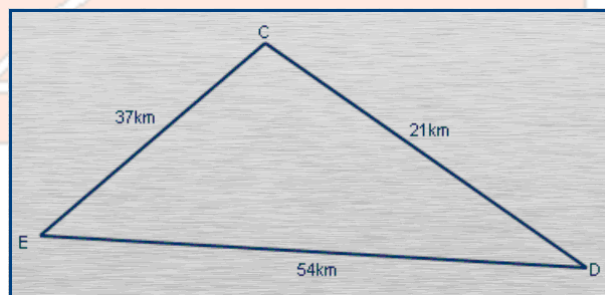
(d) Gebruik die cosinus-reël om die onbekende sy te bepaal.



(e) Gebruik die cosinus-reël om die onbekende hoek te bepaal.



(f) Gebruik die cosinus-reël om die onbekende hoek te bepaal.





CAMI Wiskunde: Graad 11

MEMO

(Antwoorde korrek tot twee desimale plekke)

1. Cosinus-reël [7.7.4.1; 7.7.4.2; 7.7.4.3]

$$\begin{aligned} \text{(a)} \quad d^2 &= c^2 + e^2 - 2ec \cos D \\ &= (35)^2 + (51)^2 - 2(35)(51) \cos 43^\circ \\ &= 1215.067285 \\ d &= 34.86 \text{ m} \end{aligned}$$

$$\begin{aligned} \text{(b)} \quad b^2 &= a^2 + c^2 - 2ac \cos B \\ &= (33)^2 + (30)^2 - 2(33)(30) \cos 33^\circ \\ &= 328.4322755 \\ b &= 18.12 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{(c)} \quad c^2 &= b^2 + d^2 - 2bd \cos C \\ &= (71)^2 + (91)^2 - 2(71)(91) \cos 26^\circ \\ &= 1707.783334 \\ c &= 41.33 \text{ km} \end{aligned}$$

$$\begin{aligned} \text{(d)} \quad g^2 &= f^2 + h^2 - 2fh \cos G \\ &= (26)^2 + (51)^2 - 2(26)(51) \cos 72^\circ \\ &= 2457.486931 \\ g &= 49.57 \text{ mm} \end{aligned}$$

$$\text{(e)} \quad \cos F = \frac{e^2 + g^2 - f^2}{2eg}$$

$$\cos F = \frac{51^2 + 34^2 - 27^2}{2(51)(34)}$$

$$\cos F = 0.8731257$$

$$\therefore \hat{F} = 29.18^\circ$$

$$\text{(f)} \quad \cos D = \frac{c^2 + e^2 - d^2}{2ce}$$



CAMI Wiskunde: Graad 11

$$\cos D = \frac{54^2 + 21^2 - 37^2}{2(54)(21)}$$

$$\cos D = 0.8765432$$

$$\therefore \hat{D} = 28.77^\circ$$

