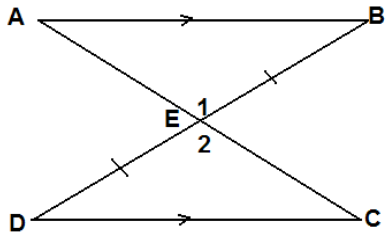
Graad 10_KABV Kurrikulum

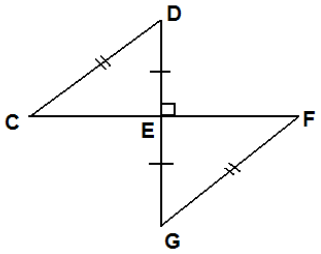
10.7 Euklidiese Meetkunde - Driehoeke

1.1 Kongruensie

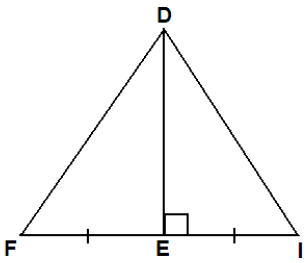
(a) Bewys $\Delta ABE \equiv \Delta CDE$



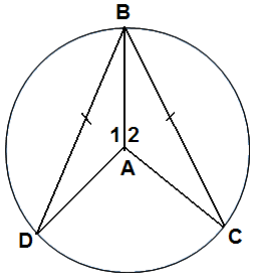
(b) Bewys $\Delta CDE \equiv \Delta FGE$



(c) Bewys $\Delta DEF \equiv \Delta DEI$

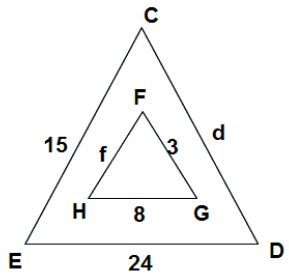


(d) Bewys $\hat{A}_1 = \hat{A}_2$

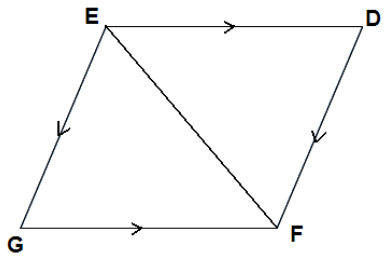


1.2 Gelykvormigheid

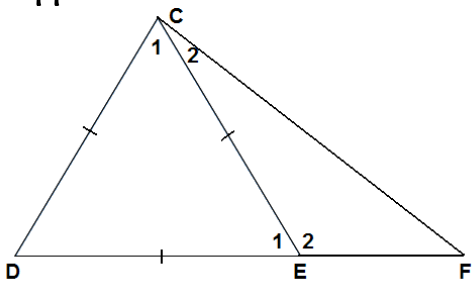
(a) Indien $\Delta CDE /// \Delta FGH$ bereken die waarde(s) van d en f.



(b) Bewys dat ΔDEF en ΔGFE gelykvormig is.



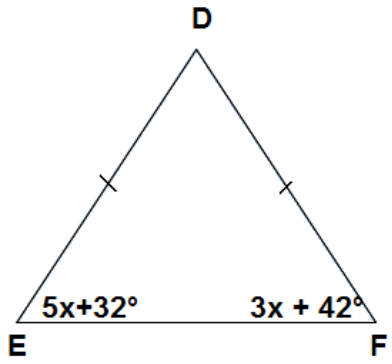
1.3 Meetkundige eienskappe van driehoeke.



(a) $E\hat{C}F = 44°$, bereken

- $\hat{D}$
- $\hat{E}_2$
- $\hat{F}$

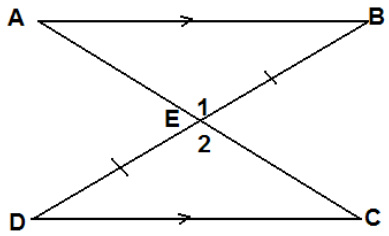
(b) Bereken die waarde van x.



MEMO

1.1 Kongruensie.
[8.3.6.1; 8.3.6.2]

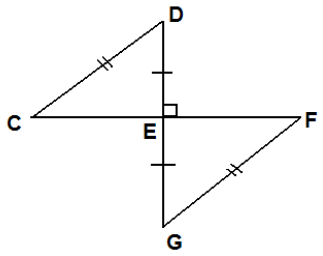
Bewys $\Delta ABE \equiv \Delta CDE$



In ΔABE en ΔCDE:

BE = DE	Gegee
$\hat{A} = \hat{C}$	Verwis <'s
$\hat{B} = \hat{D}$	Verwis <'s
of $\hat{E}_1 = \hat{E}_2$	Regoorst , <'e
$\therefore \Delta ABE \equiv \Delta CDE$	S, <, <

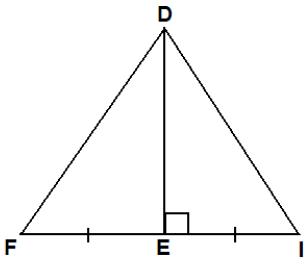
(b) Bewys $\Delta CDE \equiv \Delta FGE$



In ΔCDE en ΔFGE:

CD = FG	Gegee
DE = EG	Gegee
$C\hat{E}D = F\hat{E}G$	DG ⊥ CF
$\therefore \Delta CDE \equiv \Delta FGE$	90°, <, S

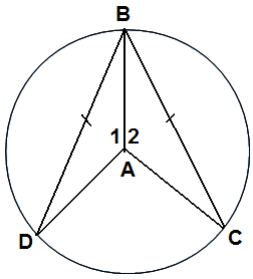
(c) Bewys $\Delta DEF \equiv \Delta DEI$



In ΔDEF en ΔDEI:

EF = EI	Gegee
DE = DE	Gemeenskaplik
$F\hat{E}D = I\hat{E}D$	$DE \perp FI$
$\therefore \Delta DEF \equiv \Delta DEI$	S, <, S

(d) Bewys $\hat{A}_1 = \hat{A}_2$

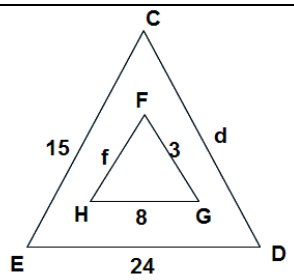


In ΔABD en ΔABC:

DB = CB	Gegee
AB = AB	Gemeenskaplik
AD = AC	Radiusse
$\therefore \Delta DEF \equiv \Delta DEI$	S, S, S

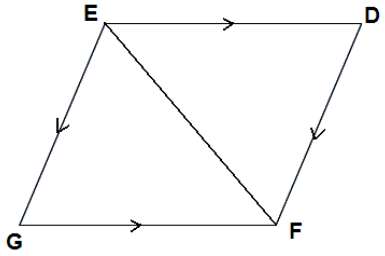
1.2 Gelykvormigheid [8.3.7.1; 8.3.7.2]

(a) Indien $\Delta CDE \,///\, \Delta FGH$ bereken die waarde(s) van d en f.



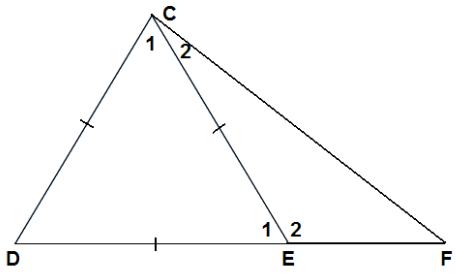
$$\frac{CD}{FG}=\frac{ED}{HG} \qquad \frac{HF}{CE}=\frac{HG}{ED}$$
$$\frac{d}{3}=\frac{24}{8} \qquad \frac{f}{24}=\frac{8}{24}$$
$$d=9 \qquad f=8$$

(b) Bewys dat ΔDEF en ΔGFE gelykvormig is.



$\hat{D}=\hat{G}$	Oorst <e in //^{m}
$D\hat{E}F=G\hat{F}E$	Verw <e ED//GF
$E\hat{F}D=G\hat{E}F$	Verw <e GE//DF
$\therefore \Delta DEF \,///\, \Delta GFE$	<, <, <

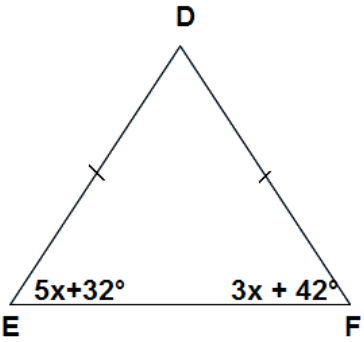
1.3 Meetkundige eienskappe van driehoeke. [8.3.4.1; 8.3.4.2]



(a) $E\hat{C}F = 44°$

- $\hat{D} = 60°$ Gelyksydige Δ
- $\hat{E}_2 = 120°$ Buite< = som van oorst binne<e
- $\hat{F} = 180° - 120° - 44° = 16°$ Binne <e van Δ

(b)



$5x + 32° = 3x + 42°$
$5x - 3x = 42° - 32°$
$2x = 10°$
$x = 5°$