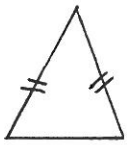
Werkkaart 2015-8 AN-00001(1)

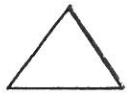
(1) Definieer die volgende:



(a) Gelykbenige driehoek

'n Gelykbenige $\triangle$ het twee sye wat ewe lank is.

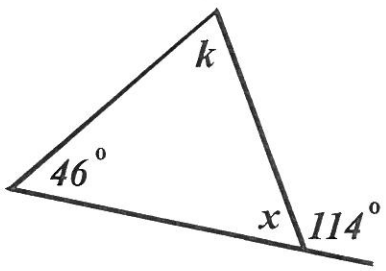
(b) Skerphoekige driehoek



'n Skerphoekige $\triangle$ se hoeke is almal kleiner as 90°

(2) Bereken die waardes van x, y en/of k in elk van die volgende sketse. Gee volledige redes:

(a)



$x + 114^\circ = 180^\circ$ [$\angle^e$ op reguitlyn]

$\therefore x = 180^\circ - 114^\circ$

$\therefore x = 66^\circ$

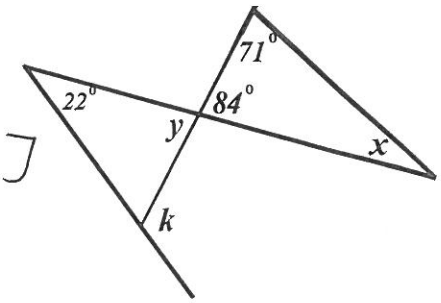
$x + k + 46^\circ = 180^\circ$ [binne $\angle^e$ van $\triangle$]

$\therefore 66^\circ + k + 46^\circ = 180^\circ$

$\therefore k = 180^\circ - 66^\circ - 46^\circ$

$\therefore k = 68^\circ$

(b)



$y = 84^\circ$ [regoorst. $\angle^e$]

$x + 71^\circ + 84^\circ = 180^\circ$ [binne $\angle^e$ van $\triangle$]

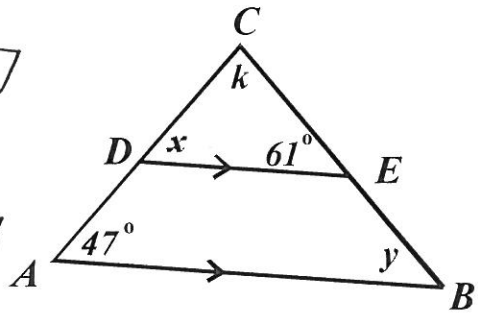
$\therefore x = 180^\circ - 71^\circ - 84^\circ$

$\therefore x = 25^\circ$

$k = y + 22^\circ$ [buite $\angle$ van $\triangle$]

$\therefore k = 84^\circ + 22^\circ = 106^\circ$

(c)



$x = 47^\circ$ [ooreenk. $\angle^e$; $DE \parallel AB$]

$y = 61^\circ$ [ooreenk. $\angle^e$; $DE \parallel AB$]

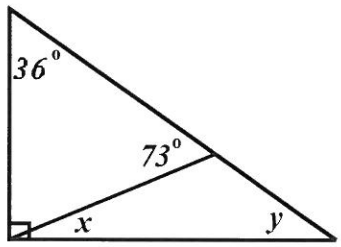
$k + x + 61^\circ = 180^\circ$ [binne $\angle^e$ van Δ]

$\therefore k + 47^\circ + 61^\circ = 180^\circ$

$\therefore k = 180^\circ - 47^\circ - 61^\circ$

$\therefore k = 72^\circ$

(d)



$y + 36^\circ + 90^\circ = 180^\circ$ [binne $\angle^e$ van Δ]

$\therefore y = 180^\circ - 90^\circ - 36^\circ$

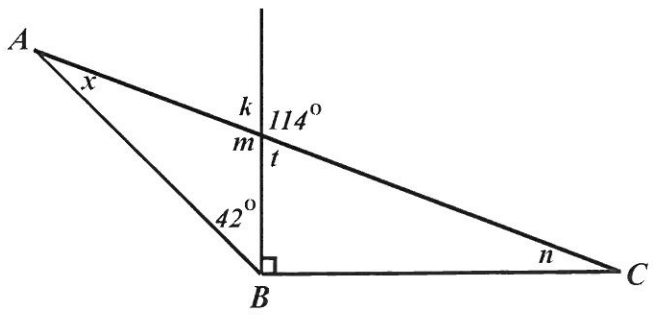
$\therefore y = 54^\circ$

$x + y = 73^\circ$ [buite $\angle$ van Δ]

$\therefore x = 73^\circ - y$

$\therefore x = 73^\circ - 54^\circ = 19^\circ$

(3) Bewys dat Δ ABC gelykbenig is.
Toon alle berekeninge en gee volledige redes:



$m = 114^\circ$ [regoorst. $\angle^e$]

$\therefore x = 180^\circ - 42^\circ - 114^\circ$ [binne $\angle^e$ van Δ]

$\therefore x = 24^\circ$

$n + 90^\circ = 114^\circ$ [buite $\angle$ van Δ]

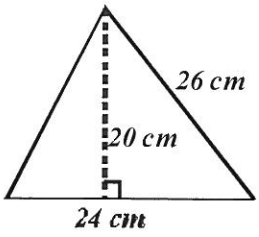
$\therefore n = 114^\circ - 90^\circ = 24^\circ$

$\therefore x = n = 24^\circ$

$\therefore \Delta ABC$ is gelykbenig met $AB = BC$

(4) Bepaal die oppervlakte van die driehoek PQR in elk van die volgende:

(a)

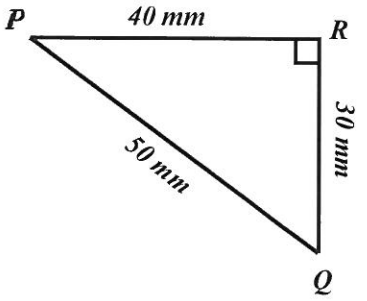


Opp $\Delta = \frac{1}{2} b \times h$

$= \frac{1}{2} (24\text{ cm}) \times (20\text{ cm})$

$= 240\text{ cm}^2$

(b)

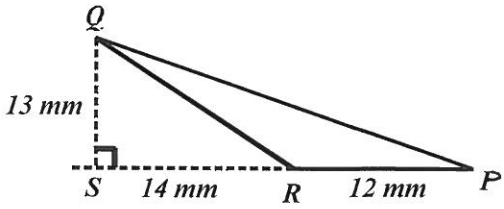


Opp $\Delta PQR = \frac{1}{2} b \times h$

$= \frac{1}{2} (40\text{ mm})(30\text{ mm})$

$= 600\text{ mm}^2$

(c)



Opp $\Delta QRP = \frac{1}{2} b \times h$

$= \frac{1}{2} (12\text{mm}) \times (13\text{ mm})$

$= 78\text{ mm}^2$

(5) (a) Konstrueer Δ PKS met PK = 64 mm, $\hat{P} = 45°$ en $\hat{K} = 60°$.

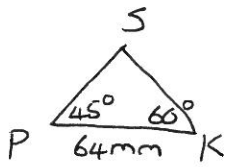
(b) Konstrueer PR so dat PR ⊥ KS.

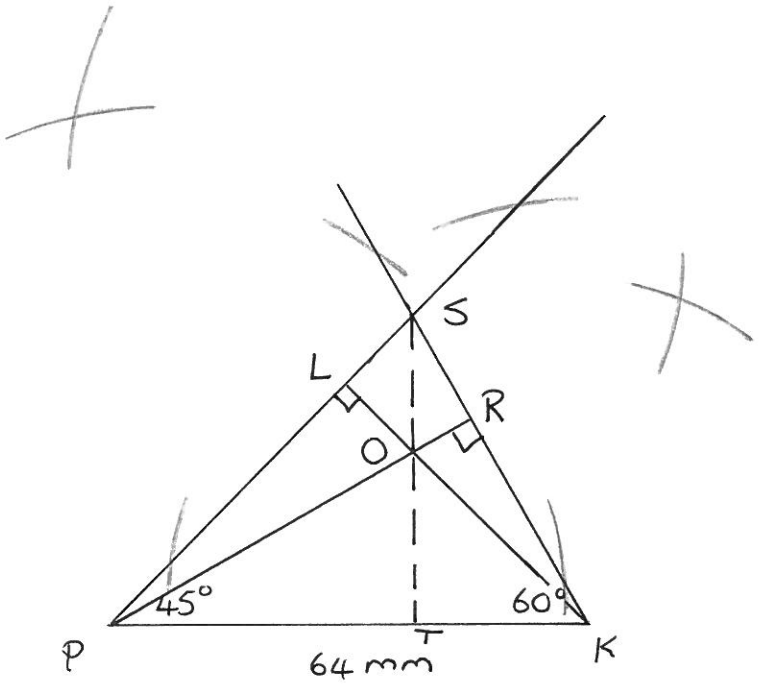
(c) Konstrueer KL so dat KL ⊥ PS.

(d) Benoem die snypunt van PR en KL, O.

(e) Verbind SO, en verleng sodat SO PK in T sny.

(f) Meet $S\hat{T}K$.





(f) $S\hat{T}K = 90°$