Wiskunde:

Meetkunde: 2D figure

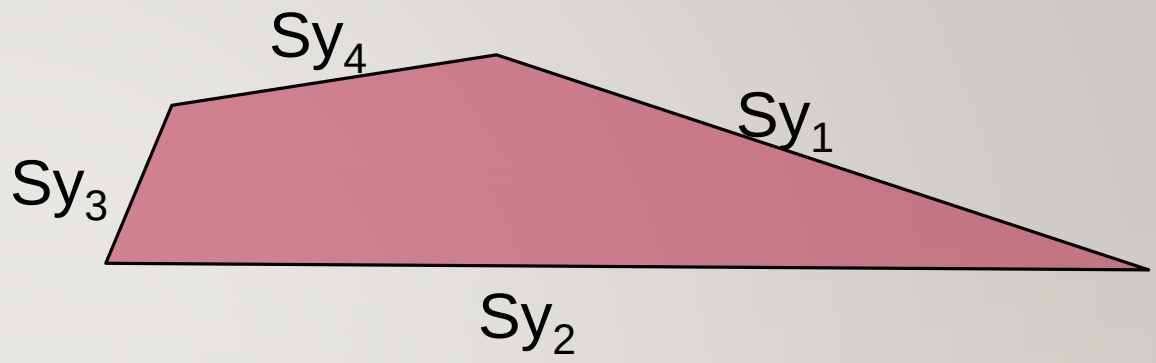
Omtrek: Inverse formules

Graad 7

- **<u>Bereken sylengtes van tetragone wanneer die omtrek bekend is:</u>**

- Enige vierhoek:

$$Omtr = Sy_1 + Sy_2 + Sy_3 + Sy_4$$



Inverse: $Sy_1 = Omtr - (Sy_2 + Sy_3 + Sy_4)$

en

$Sy_2 = Omtr - (Sy_1 + Sy_3 + Sy_4)$

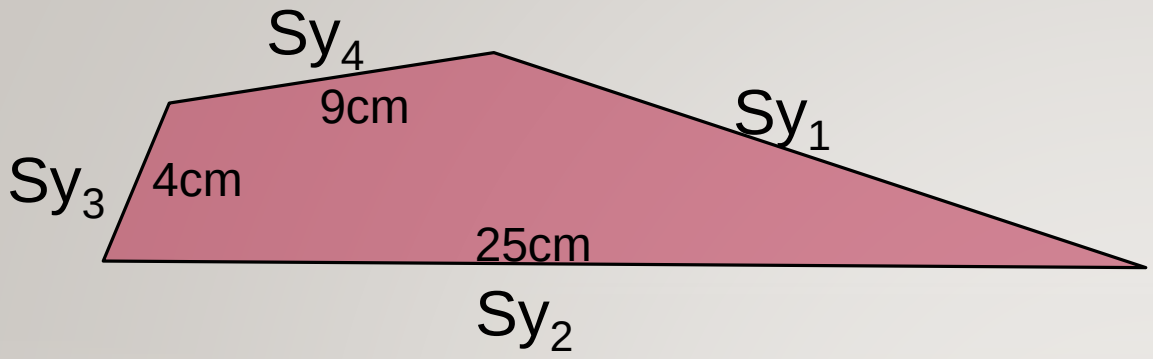
en

$Sy_3 = Omtr - (Sy_1 + Sy_2 + Sy_4)$

en

$Sy_4 = Omtr - (Sy_1 + Sy_2 + Sy_3)$

Voorbeeld:



Omtrek = 64cm

Sy_1 = Omtr – (Sy_2 + Sy_3 + Sy_4)

= 64cm – (25cm + 4cm + 9cm)

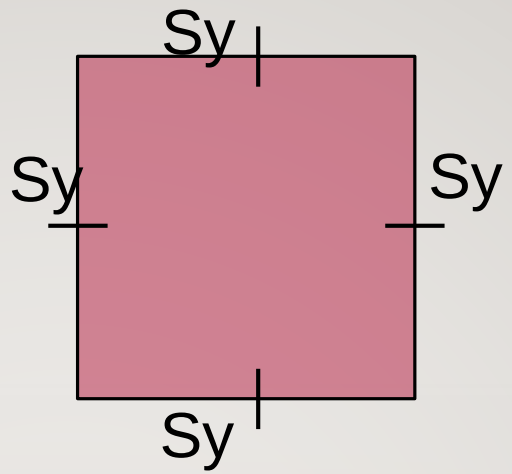
= 64cm – 38cm

= 26cm

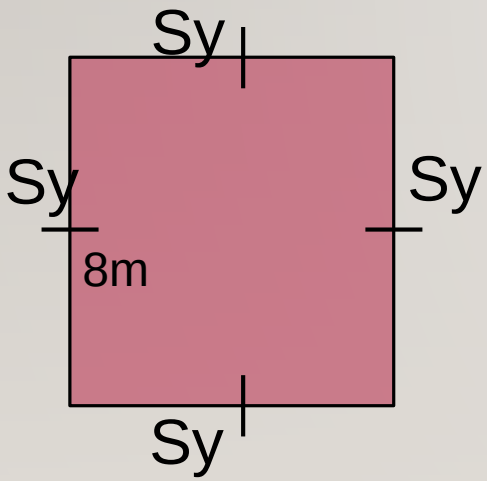
- Vierkant en Rombus:

Omtr □ = 4 x Sy

Inverse: Sy = Omtr □ ÷ 4



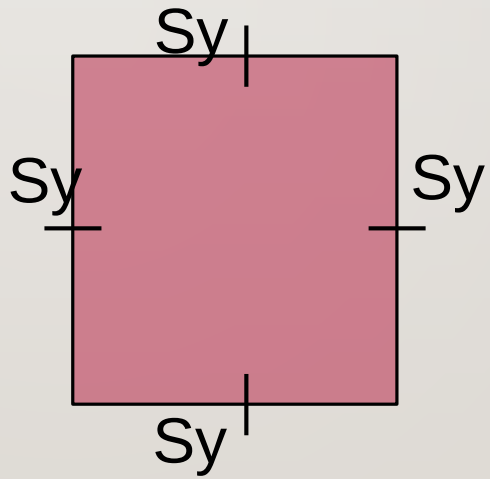
Voorbeelde:



Omtr □ = 4 x Sy

= 4 x 8m

= 32m



Omtrek = 48cm

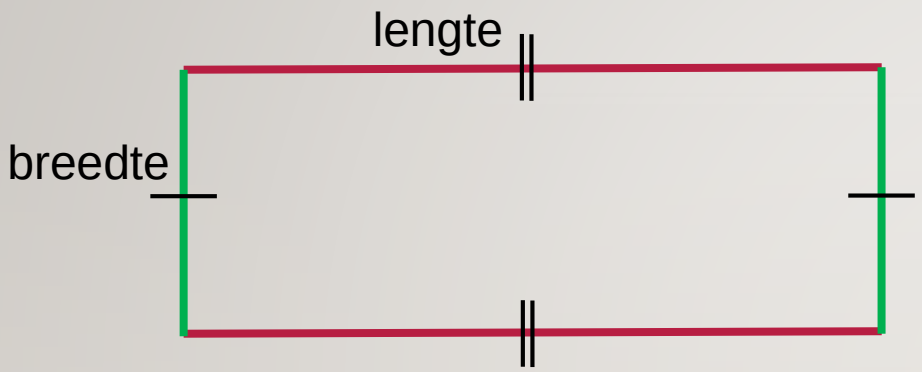
Sy = Omtr □ ÷ 4

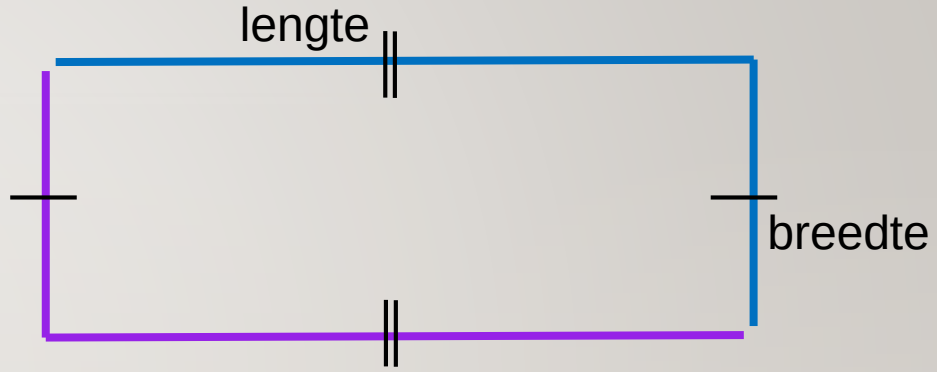
= 48cm ÷ 4

= 12cm

- Reghoek en Parallellogram:

Omtr Reg∠ = 2 x lengte + 2 x breedte of Omtr Reg∠ = 2 x (lengte + breedte)





Inverse formules:

Lengte = (Omtr Reg∠ – 2 x breedte) ÷ 2

Lengte = Omtr Reg∠ ÷ 2 – breedte

Breedte = (Omtr Reg∠ – 2 x lengte) ÷ 2

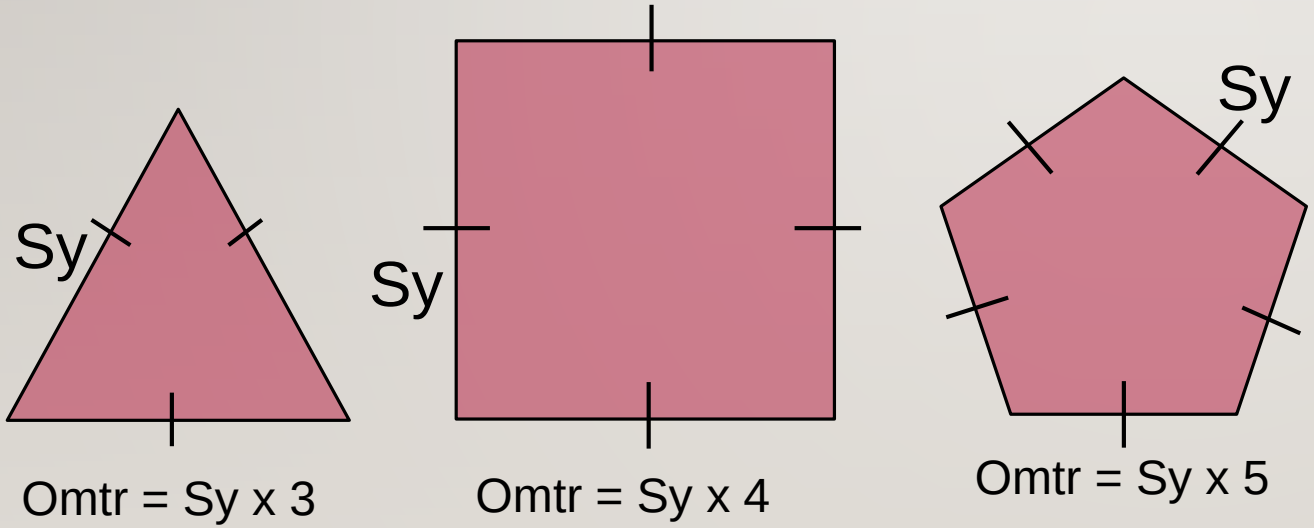
Breedte = Omtr Reg∠ ÷ 2 – lengte

- **<u>Omtrek van volkome/reëlmstige figure:</u>**
- Volkome figure se sye is almal ewe lank en die hoeke is almal ewe groot. Daar is ook ewe veel hoeke, sye en lyne van simmetrie.
- Enige volkome/reëlmatige figuur:

Omtr = Sy x Aantal sye

Algemene Inverse formule:

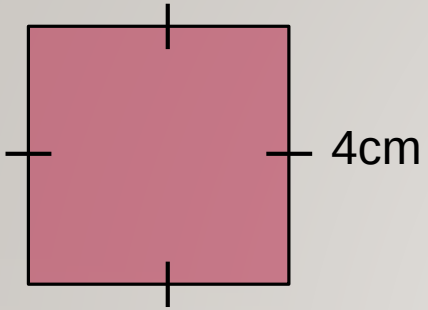
Sy = Omtr Volkome Fig. ÷ Aantal sye



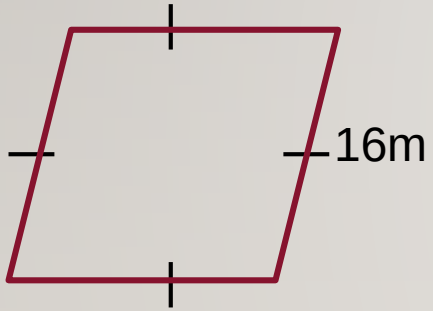
Tetragone: Oefening 1

1. Bereken elk van die volgende sketse se omtrek deur met die gepaste formule te begin:

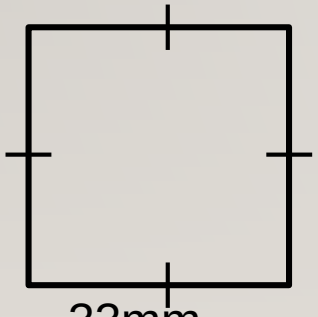
1.1



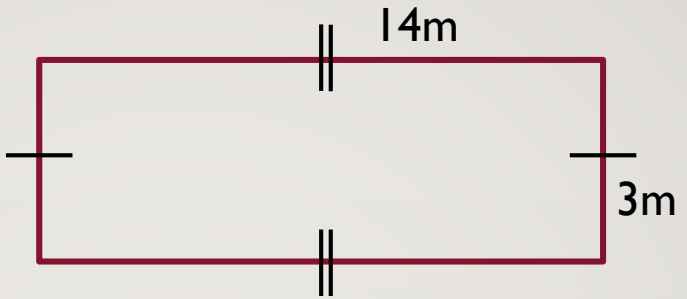
1.2



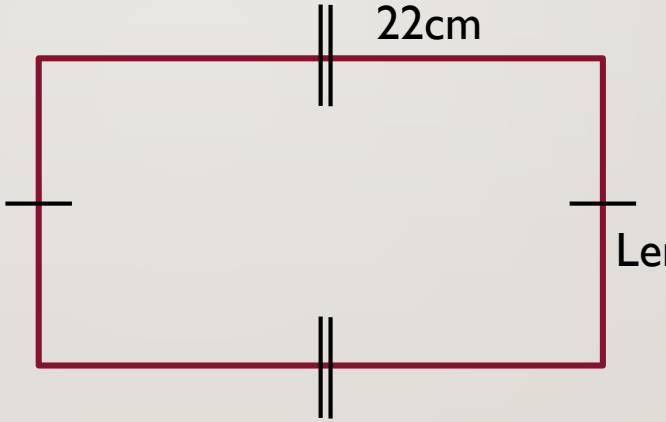
1.3



1.4



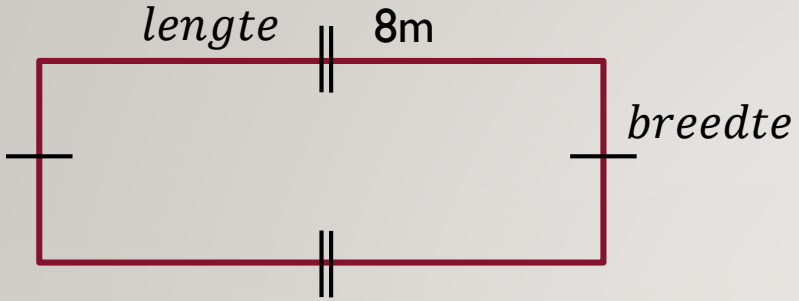
1.5



Tetragone: Oefening 1

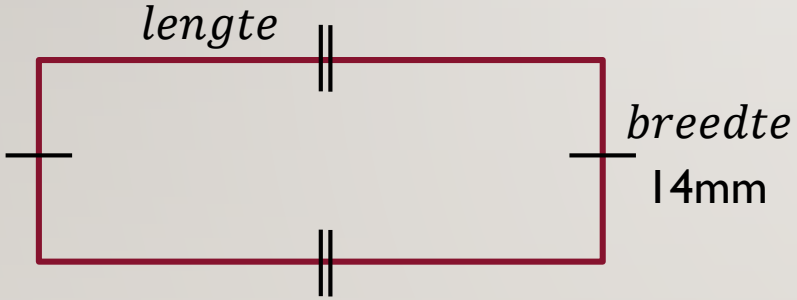
2. Bereken die ontbrekende sylengte(s) van elk van die volgende sketse:

2.1



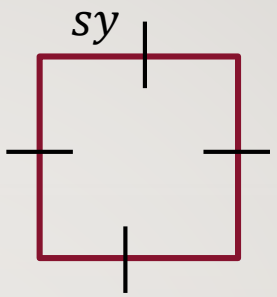
$Omtrek = 22m$

2.2



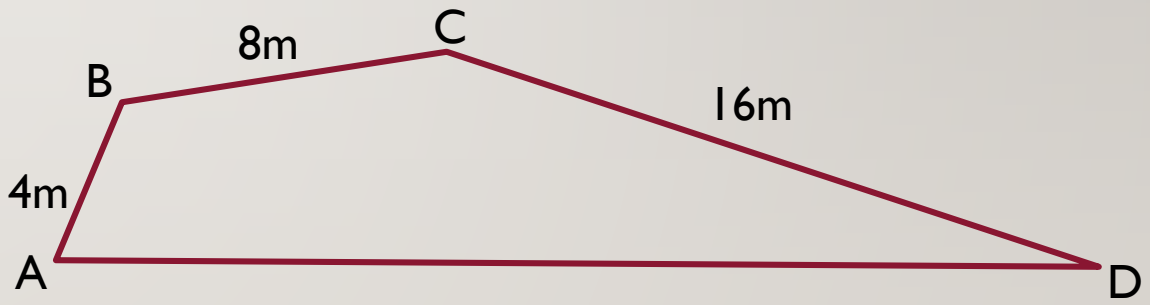
$Omtrek = 80mm$

2.3



$Omtrek = 28mm$

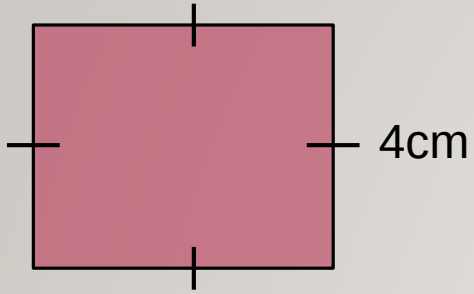
2.4



$Omtrek = 60m$

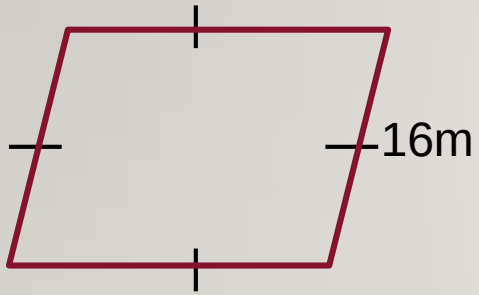
Memorandum

1. Bereken elk van die volgende sketse se omtrek deur met die gepaste formule te begin:



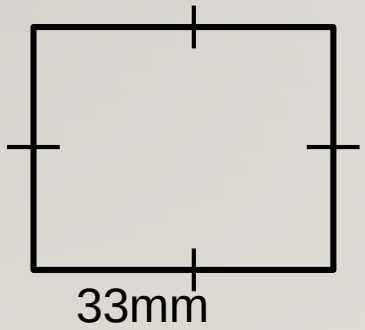
1.1

1.1) Omtr □ = 4 x Sy
= 4 x 4cm
= 16cm



1.2

1.2) Omtr □ = 4 x Sy
= 4 x 16cm
= 64cm

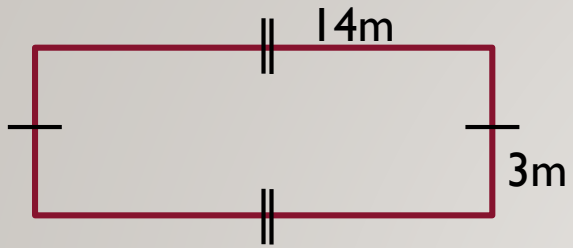


1.3

1.3) Omtr □ = 4 x Sy
= 4 x 33cm
= 132cm

Memorandum

1.4

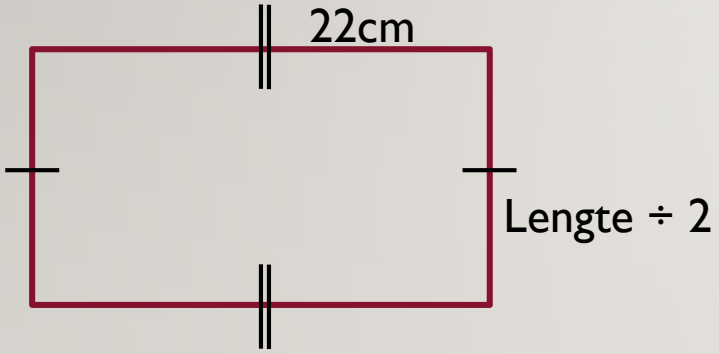


1.4) Omtr Reg∠ = 2 x $(lengte + breedte)$
= 2 x (14m + 3m)
= 2 x 17m
= 34m

of

= 2 x $lengte$ + 2 x $breedte$
= 2 x 14m + 2 x 3m
= 28m + 6m
= 34m

1.5



1.5) Omtr Reg∠ = 2 x $(lengte + breedte)$
= 2 x (22cm + 11cm)
= 2 x 33cm
= 66cm

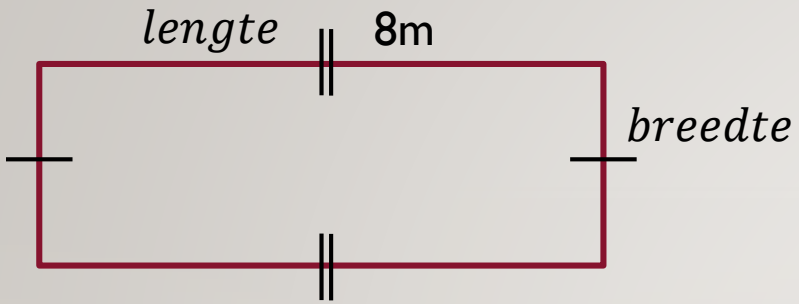
of

= 2 x $lengte$ + 2 x $breedte$
= 2 x 22cm + 2 x 11cm
= 44cm + 22cm
= 66cm

Memorandum

2. Bereken die ontbrekende sylengte(s) van elk van die volgende sketse:

2.1



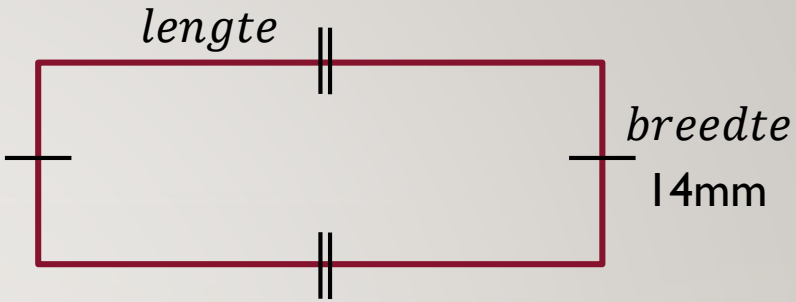
$Omtrek = 22m$

2.1) $Breedte$ = Omtr Reg∠ ÷ 2 - $lengte$
= 22m ÷ 2 – 8m
= 11m – 8m
= 3m

of

$Breedte$ = (Omtr Reg∠ - 2 x $lengte$) ÷ 2
= (22m – 2 x 8m) ÷ 2
= (22m – 16m) ÷ 2
= 6m ÷ 2
= 3m

2.2



$Omtrek = 80mm$

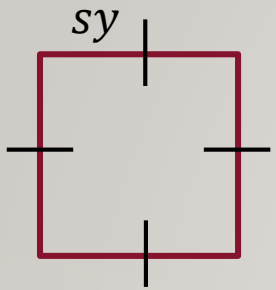
2.1) Lengte = Omtr Reg∠ ÷ 2 - b$reedte$
= 80mm ÷ 2 – 14mm
= 40mm – 14mm
= 26mm

of

Lengte = (Omtr Reg∠ - 2 x $breedte$) ÷ 2
= (80mm – 2 x 14mm) ÷ 2
= (80mm – 28mm) ÷ 2
= 52mm ÷ 2
= 26mm

Memorandum

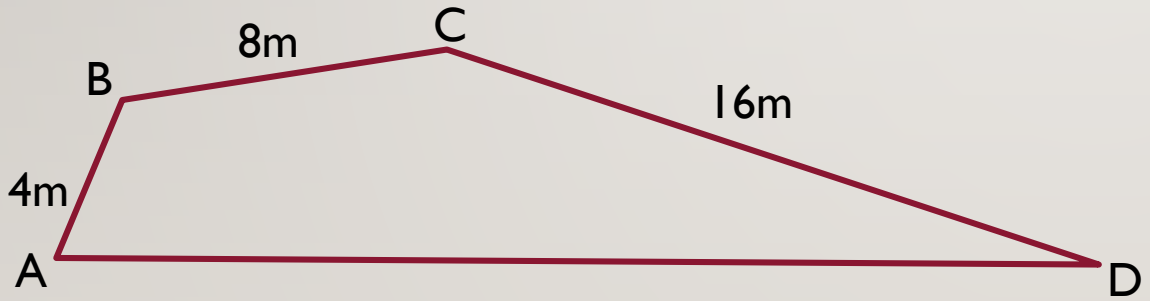
2.3



$Omtrek = 28mm$

2.3) Sy = Omtr □ ÷ 4
= 28mm ÷ 4
= 7mm

2.4



$Omtrek = 60m$

2.4) AD = Omtrek – (AB + BC + CD)
= 60m – (4m + 8m + 16m)
= 60m – 28m
= 32m