



Wiskunde

Meetkunde: 2D figure

Graad 7

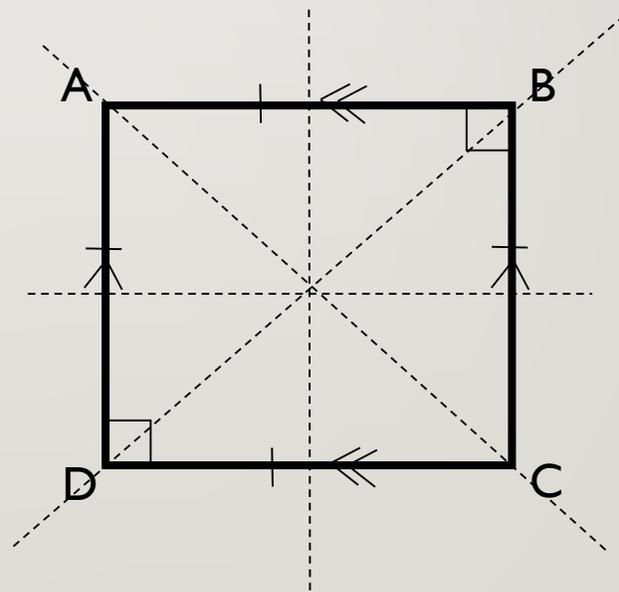
Tetragone / Vierhoeke

p.56 – 57

- Enige figuur met vier hoeke en vier sye word 'n vierhoek genoem.
- Die som van die binnehoeke van 'n vierhoek is 360° .

Vierkant (Volkome Vierhoek)

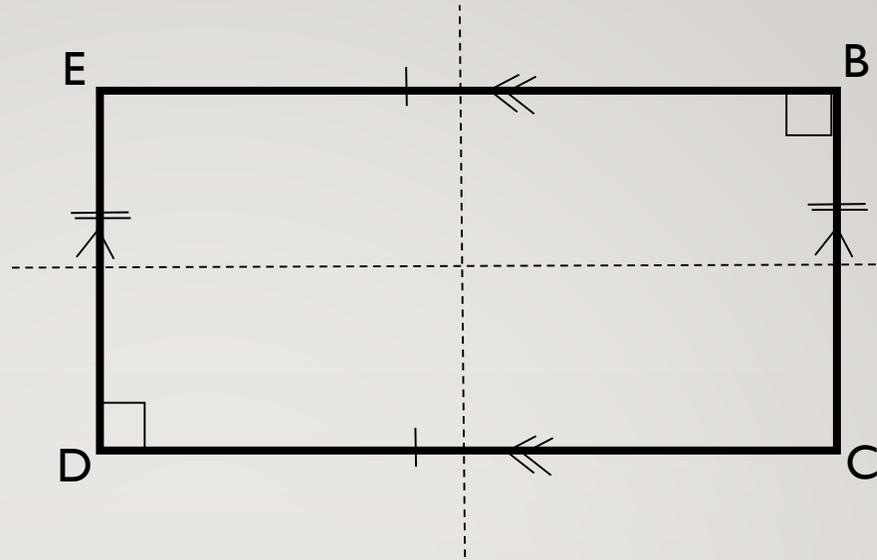
- Vier sye is gelyk.
- Teenoorstaande sye is parallel.
- Vier hoeke is 90° elk.
- Hoeklyne halveer die vierkant.
- Vier lyne van simmetrie. (Stippellyne)



□ ABCD
 $\angle A = \angle B = \angle C = \angle D$
 $AB = BC = CD = DA$
 $AB \parallel DC$
 $AD \parallel BC$

Reghoek

- Teenoorstaande sye is parallel.
- Teenoorstaande sye is gelyk.
- Vier hoeke is 90°
- Hoeklyne halveer die reghoek.
- Hoeklyne halveer **NIE** die hoeke nie.
- Twee lyne van simmetrie.



Reg \angle BCDE

$$\angle B = \angle C = \angle D = \angle E$$

$$EB = DC$$

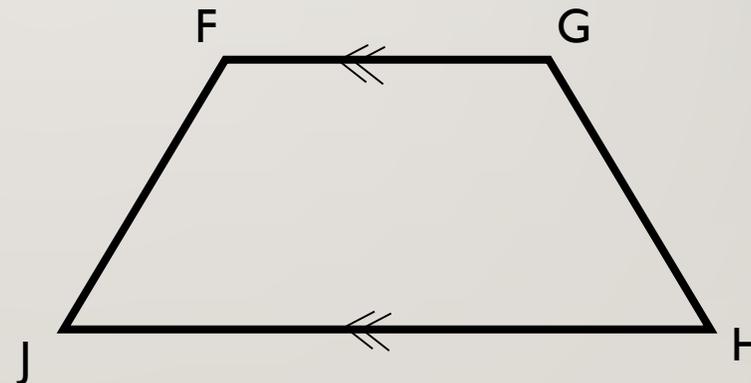
$$ED = BC$$

$$EB // DC$$

$$ED // BC$$

Trapesium

- Slegs een paar teenoorstaande sye is parallel.

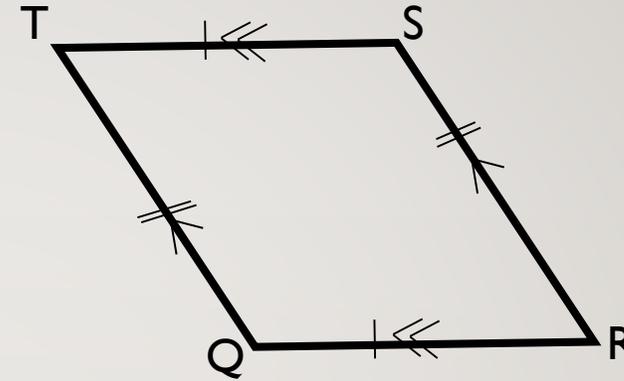


Trap.FGHJ

$$FG // JH$$

Rombus / Ruit

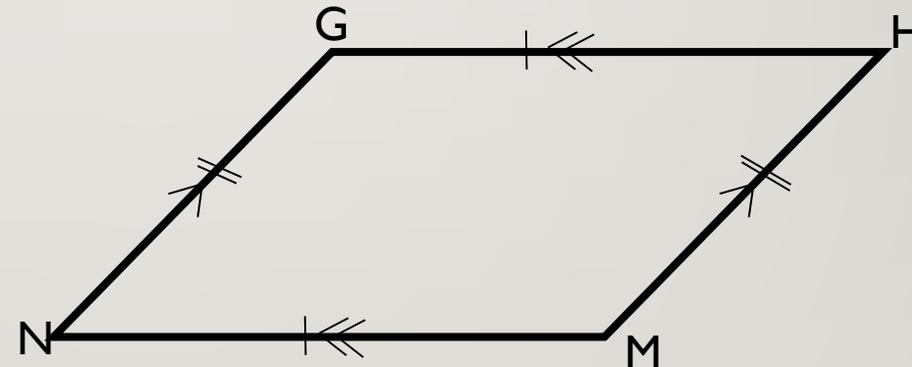
- Teenoorstaande sye is parallel.
- Vier sye is gelyk.
- Teenoorstaande hoeke is gelyk.
- Vierkant wat na kant toe leun.



Rombus TSRQ
 $TS=SR=RQ=QT$
 $TS\parallel QR$
 $SR\parallel TQ$
 $\angle T = \angle R$
 $\angle Q = \angle S$

Parallelogram

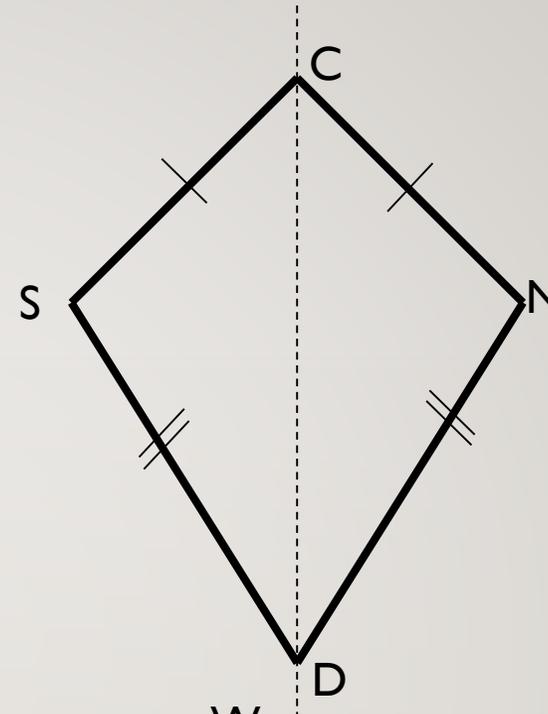
- Teenoorstaande sye is parallel.
- Teenoorstaande sye is gelyk.
- Teenoorstaande hoeke is gelyk.
- Hoeklyne halveer die parallelogram.
- Hoeklyne halveer **NIE** die hoeke nie.



//gram GHMN
 $GH=MN$
 $HM=GN$
 $GH\parallel MN$
 $HM\parallel GN$
 $\angle G = \angle M$
 $\angle H = \angle N$

Vlieër

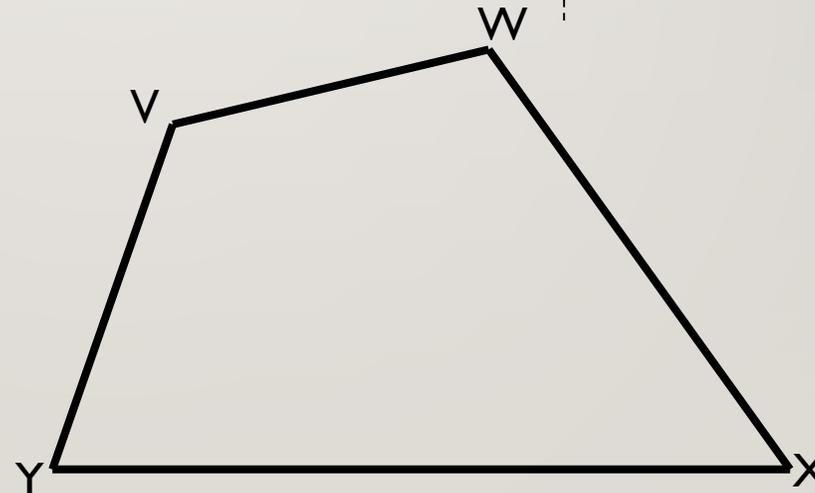
- Aangrensende sye is gelyk.
- Een paar teenoorstaande hoeke is gelyk.
- Slegs een lyn van simmetrie.



Vlieër SCND
 $SC = CN$
 $ND = DS$
 $\angle S = \angle N$

Ongelyke Vierhoek

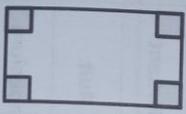
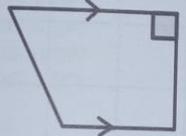
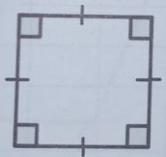
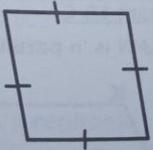
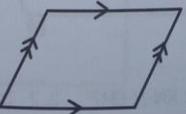
- Geen hoeke is gelyk nie.
- Geen sye is gelyk nie.



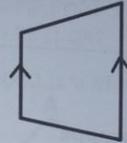
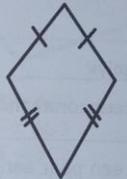
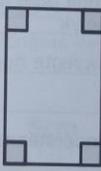
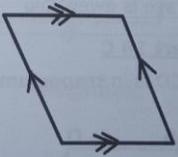
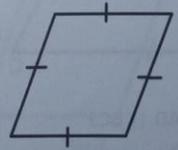
VWXY

Oefening

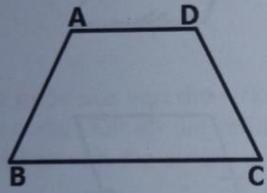
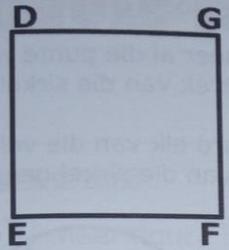
Werkkaart 18 A
Identifiseer die vierhoek in elk van die volgende sketse:

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- 
- 
- 
- 

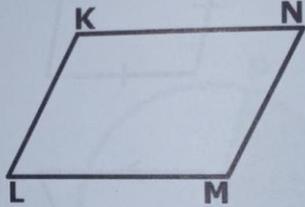
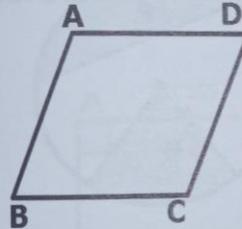
Werkkaart 18 A

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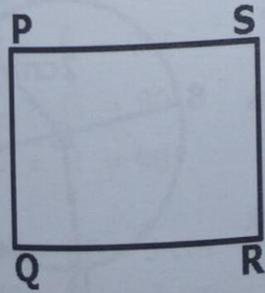
Werkkaart 18 C

- ABCD is 'n **trapesium**.

 - Is $AD \parallel BC$?
 - Is $AD \perp BC$?
- DEFG is 'n **vierkant**.

 - Is $DG = DE$?
 - Is $DG \perp DE$?
 - Is $DG = EF$?
 - Is $DG \parallel EF$?
 - Is $DG \perp EF$?

Werkkaart 18 C

- KLMN is 'n **parallelogram**.

 - Is $KN \parallel LM$?
 - Is $KN = LM$?
 - Is $KN \perp LM$?
 - Is $KL = NM$?
- ABCD is 'n **ruit**.

 - Is $AD = DC$?
 - Is $AD \perp DC$?
 - Is $AD = BC$?
 - Is $AD \parallel BC$?
 - Is $AB \perp BC$?

5. PQRS is 'n **reghoek**.



5.1 Is $PS = PQ$?

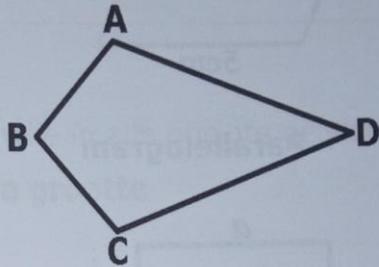
5.2 Is $PS \perp PQ$?

5.3 Is $PS = QR$?

5.4 Is $PS \perp QR$?

5.5 Is $PS \parallel QR$?

6. ABCD is 'n **vlieër**.



6.1 Is $AB = AD$?

6.2 Is $AB \perp AD$?

6.3 Is $AB = BC$?

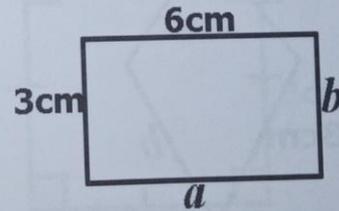
6.4 Is $AB \parallel CD$?

6.5 Is $AD = DC$?

Werkkaart 18 D

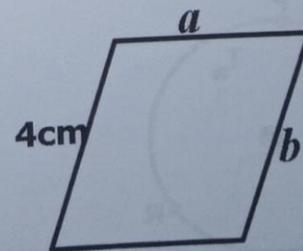
Bepaal die lengtes van die sye gemerk a en b in elke figuur.

1.



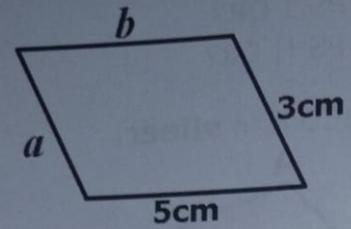
Reghoek

2.



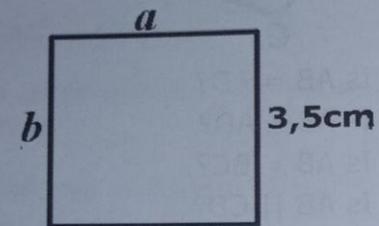
Ruit

3.



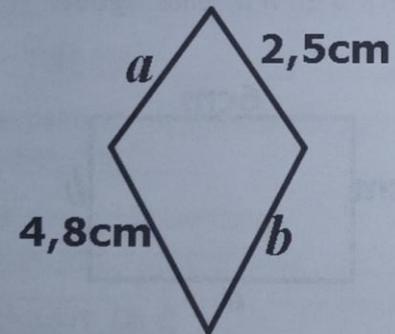
Parallelogram

4.



Vierkant

5.



Vlieër

Antwoorde

Werkkaart 18 A

1. reghoek
2. trapesium
3. vierkant
4. ruit
5. parallelogram
6. trapesium
7. vlieër
8. reghoek
9. parallelogram
10. ruit

Werkkaart 18 C

- | | | | |
|-----|-----|-----|-----|
| 1.1 | Ja | 1.2 | Nee |
| 2.1 | Ja | 2.2 | Ja |
| 2.3 | Nee | 2.4 | Ja |
| 3.1 | Ja | 4.1 | Ja |
| 3.2 | Ja | 4.2 | Nee |
| 3.3 | Ja | 4.3 | Ja |
| 3.4 | Ja | 4.4 | Ja |
| 3.5 | Nee | 4.5 | Nee |
| 5.1 | Nee | 6.1 | Nee |
| 5.2 | Ja | 6.2 | Nee |
| 5.3 | Ja | 6.3 | Ja |
| 5.4 | Nee | 6.4 | Nee |
| 5.5 | Ja | 6.5 | Ja |

Werkkaart 18 D

1. $a = 6 \text{ cm}$
 $b = 3 \text{ cm}$
2. $a = 4 \text{ cm}$
 $b = 4 \text{ cm}$
3. $a = 3 \text{ cm}$
 $b = 5 \text{ cm}$
4. $a = 3,5 \text{ cm}$
 $b = 3,5 \text{ cm}$
5. $a = 2,5 \text{ cm}$
 $b = 4,8 \text{ cm}$