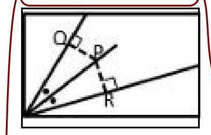
© Alaka 2014

Niet-commercieel gebruik in de klas toegestaan

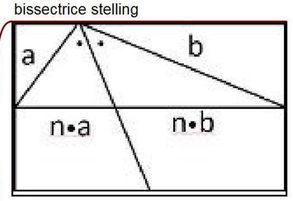
Stellingen van de Meetkunde

Lijnen

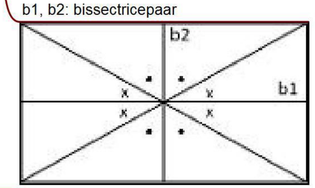
Bissectrice PQ=PR



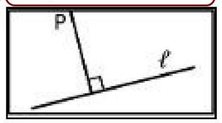
bissectrice stelling



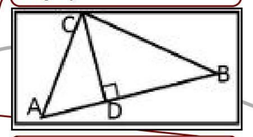
b1, b2: bissectricepaar



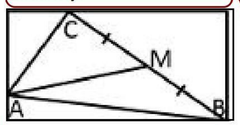
Loodlijn



Hoogtelijn

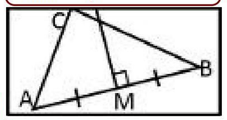


Zwaartelijn

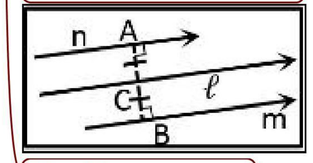


Zwaartelijnstelling: snijpunten delen verhouding 1:2

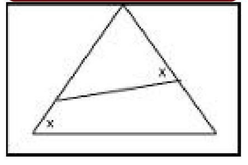
Middelloodlijn



Midden parallel



Anti parallel



Berekeningen

Pythagoras

omgekeerd Pythagoras

sin/cos/tan

	0	30	45	60	90
sin	0	$\frac{1}{2}$	$\frac{1}{2}\sqrt{2}$	$\frac{1}{2}\sqrt{3}$	1
cos	1	$\frac{1}{2}\sqrt{3}$	$\frac{1}{2}\sqrt{2}$	$\frac{1}{2}$	0
tan	0	$\frac{1}{3}\sqrt{3}$	1	$\sqrt{3}$	∞

tan=sin/cos

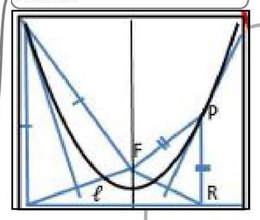
Meetkundige plaatsen

Parabool

l=richtlijn

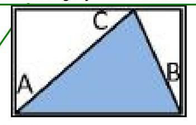
F=brandpunt

PF=PR



Driehoeken

driehoeksongelijkheid AB+BC>AC



A, B, C niet op één lijn

gelijkzijdig

gelijkbenig

hoekensom driehoek

halve gelijkzijdige driehoek 30°- 60°- 90°

gelijkvormigheid

hh

zhz

zzr

zzz

congruentie

ZZZ

ZHZ

HZH

ZZR

ZHH

Oplossingsmethoden

Bewijs uit ongerijmde

Bekijk **alle** mogelijke driehoeken

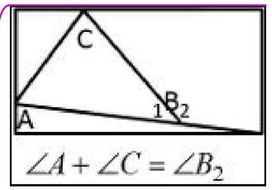
Zoek naar gelijke zijden

Geef gelijke hoeken gelijke kleuren

Maak een schets

Hoeken

Buitenhoek



overstaande hoeken

Z-hoeken/F-hoeken

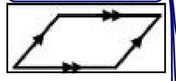
Rechte hoek

Gestrekte hoek

Volle hoek (360 graden)

Vierhoeken

Parallellogram



diagonalen delen middendoor

2 overste zijden paarsgewijs gelijk

2 paren gelijke overstaande hoeken

2 paren // zijden

ruit

diagonalen snijden loodrecht

4 gelijke zijden

diagonalen delen hoek middendoor

dus bissectrice!

rechthoek

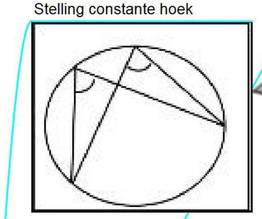
vierkant

Trapezium

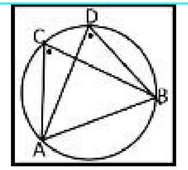
Hoekensom vierhoek (360°)

Cirkel

Stelling constante hoek

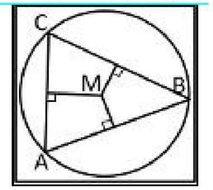


omgekeerde stelling constante hoek



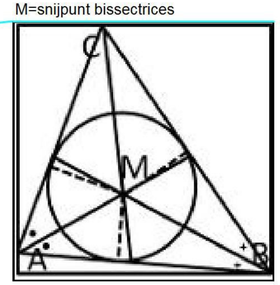
omgeschreven cirkel driehoek

M=snijpunt middelloodlijnen



Ingeschreven cirkel driehoek

M=snijpunt bissectrices

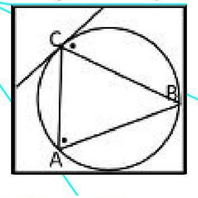


Koorde

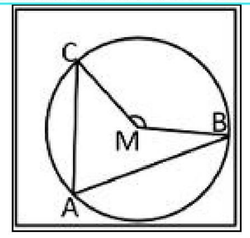
Boog

Stelling boog en koorde

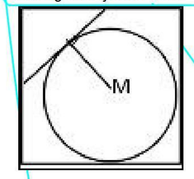
Stelling koorde raaklijn



middelpuntshoek CMB omtrekshoek CAB = helft hoek CMB

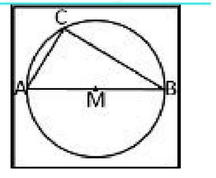
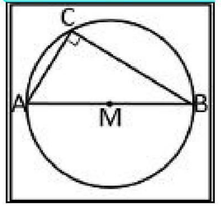


Stelling raaklijn aan cirkel



koordenvierhoek

omgekeerde stelling van Thales



stelling van Thales