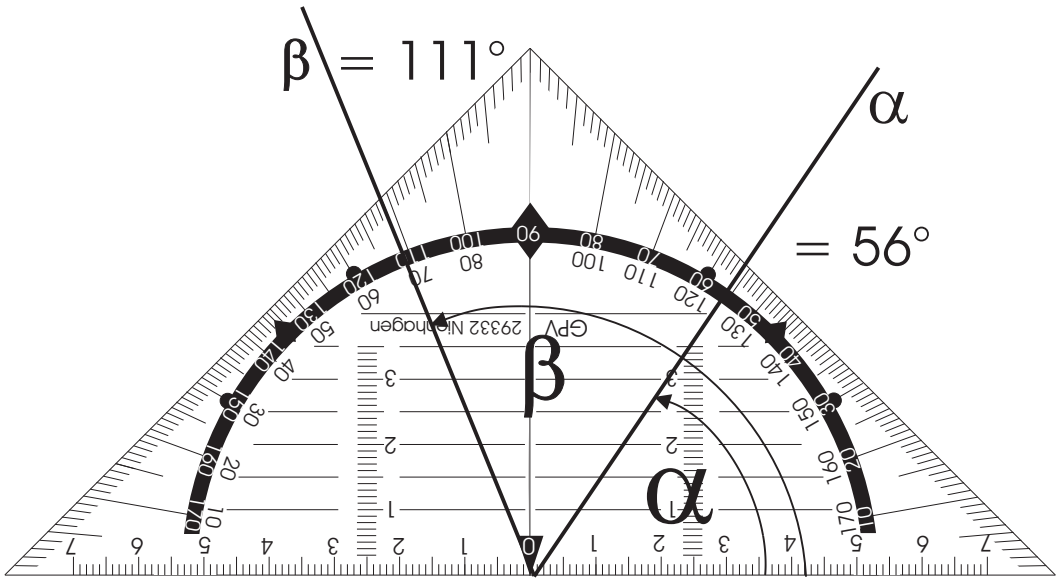
Heiner Prüser

Geometriearbeitsblätter

Klasse 7 bis 9

Inhalt von Teil 1



PDF190_1

GPV Prüser Verlag
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Geometriearbeitsblätter für Kl.7- 9

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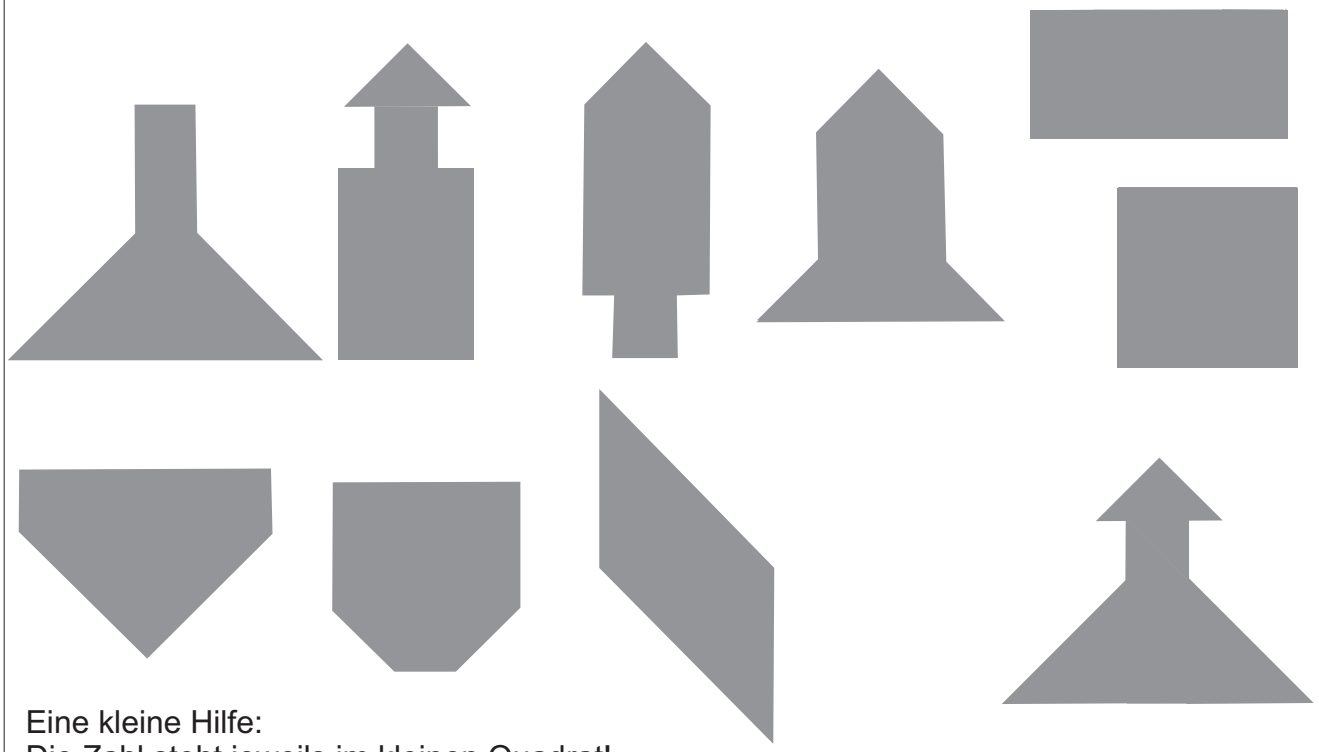
Tangram-Puzzle

Rechnen macht Spaß

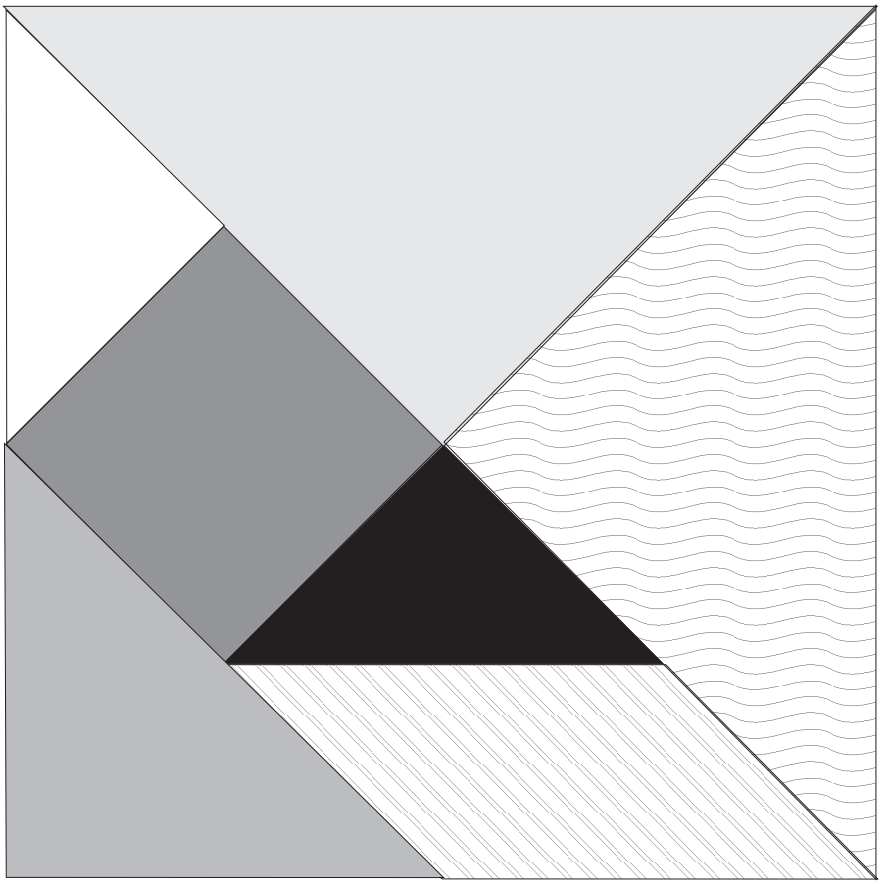
Räumliche Vorstellung trainieren

Die unten abgebildete Figur nennt man Tangram. Schneide sie auseinander und versuche, die folgenden abgebildeten (verkleinerten) Figuren zu legen. Dabei müssen jeweils alle 7 Teile verwendet werden.



Eine kleine Hilfe:
Die Zahl steht jeweils im kleinen Quadrat!

Erfinde selbst Tangramfiguren; zeichne sie sorgfältig ab und gib sie einem Mitschüler als Puzzleaufgabe!



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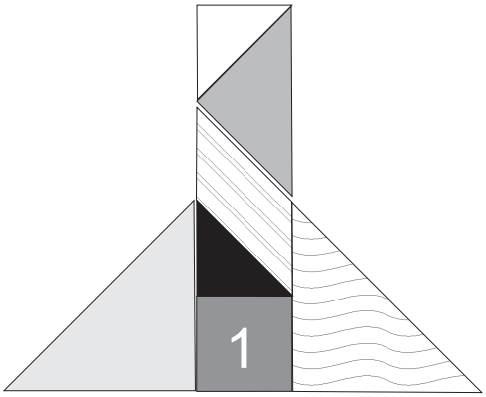
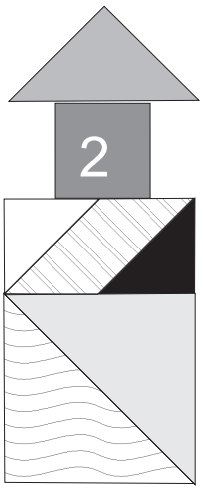
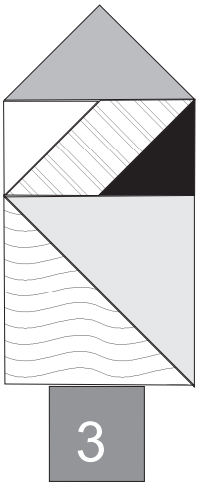
Lösung Tangram

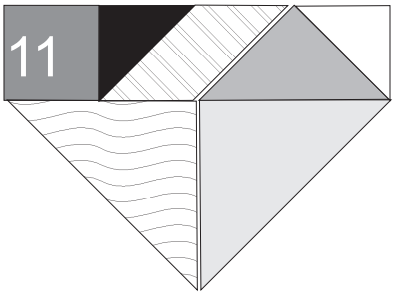
Rechnen macht Spaß

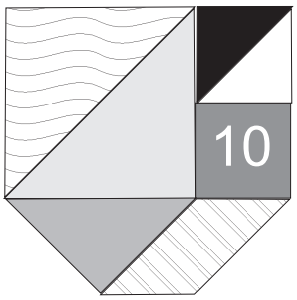
Räumliche Vorstellung trainieren

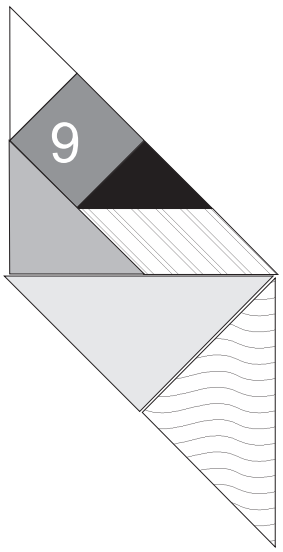


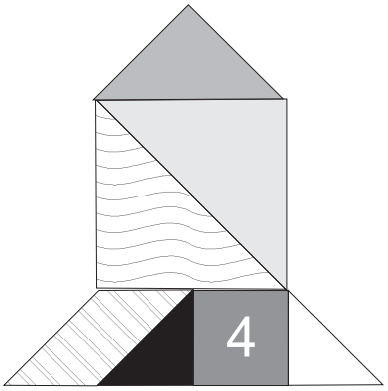


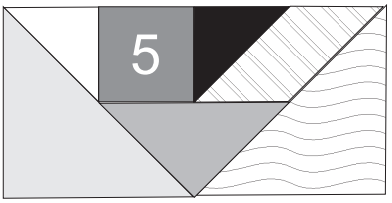


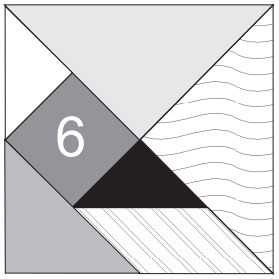


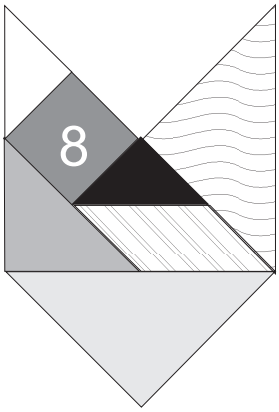


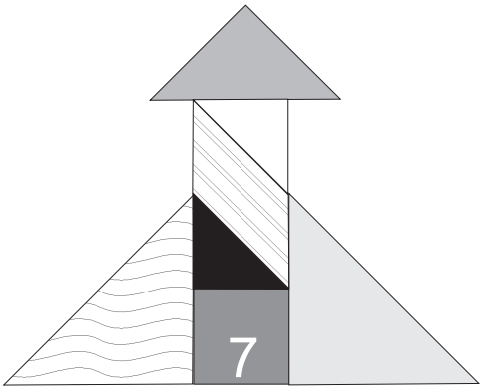












PDF190_1

Tangram-Puzzle 2

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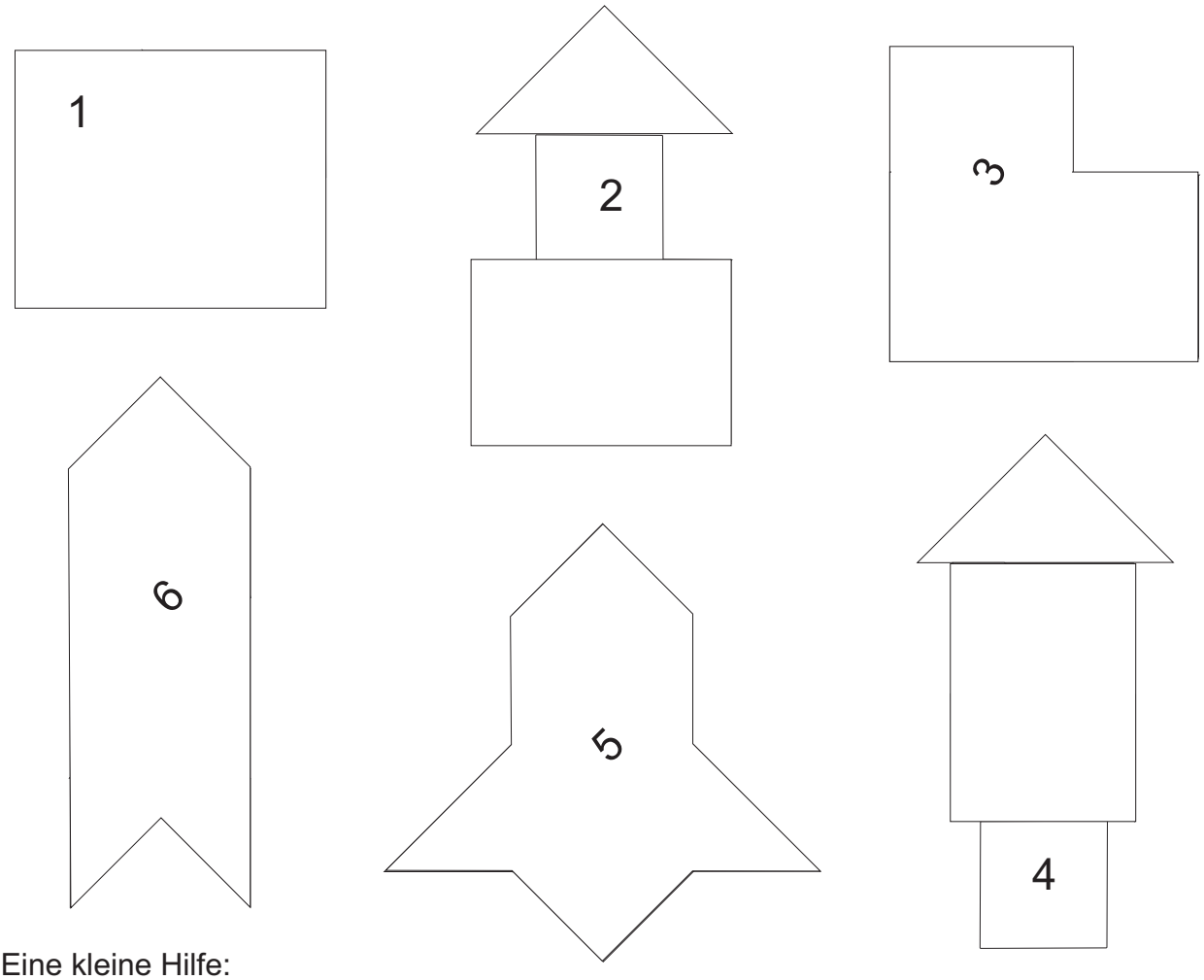

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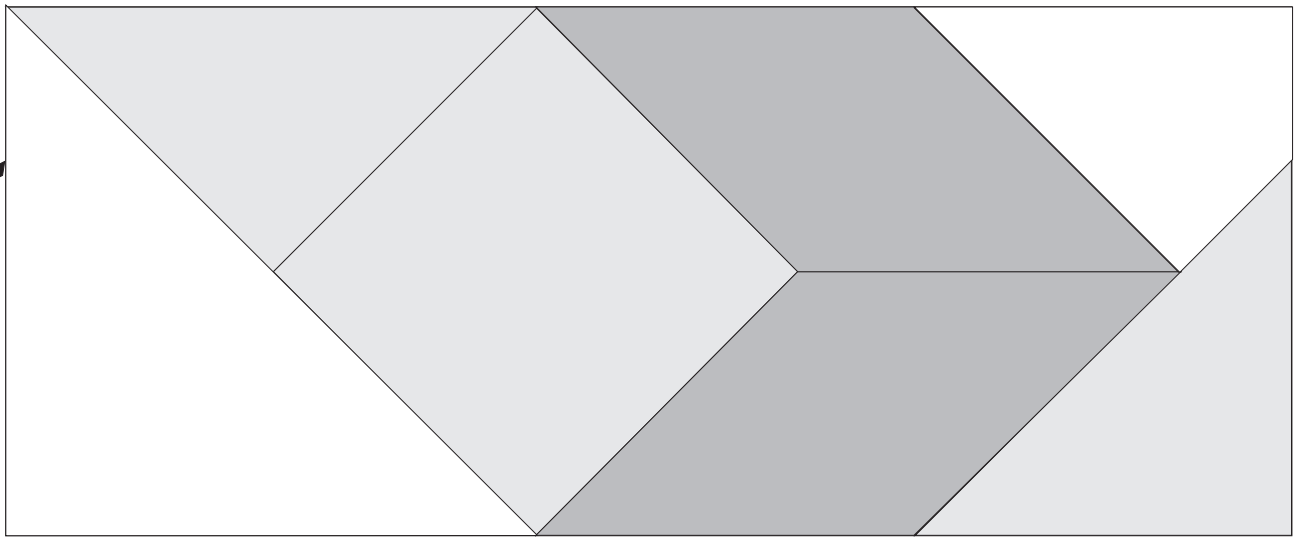
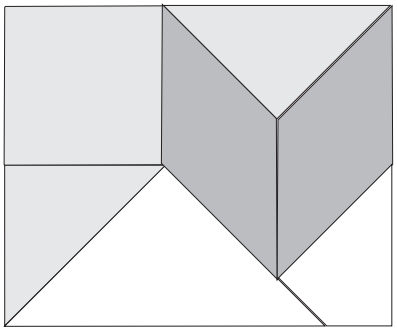


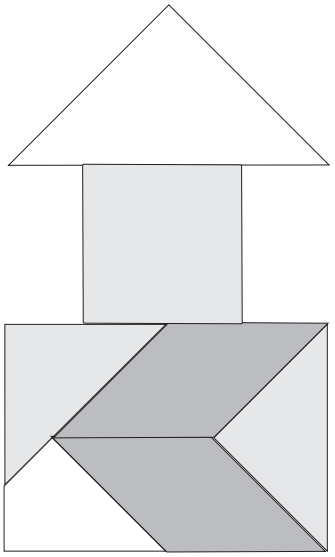
PDF190_1

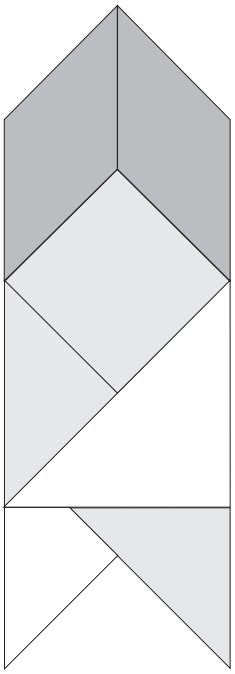
Lösung Tangram

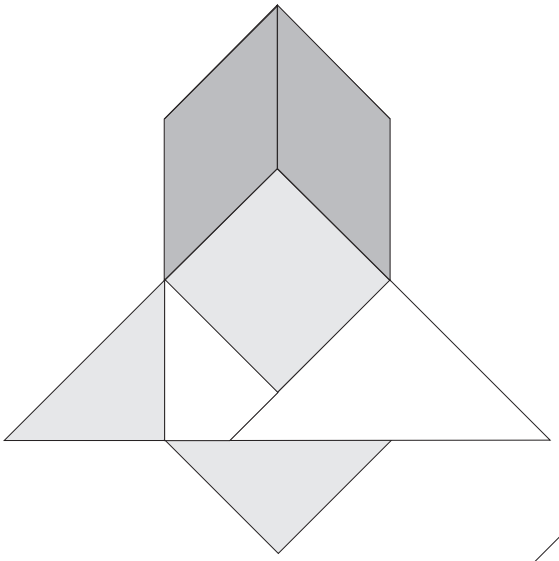
Rechnen macht Spaß

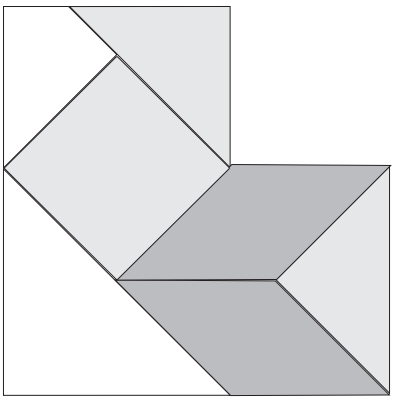
Räumliche Vorstellung trainieren

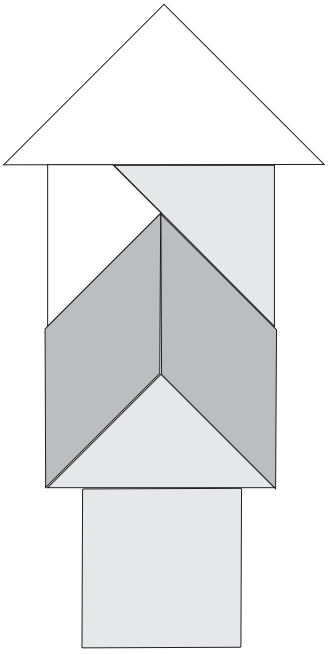








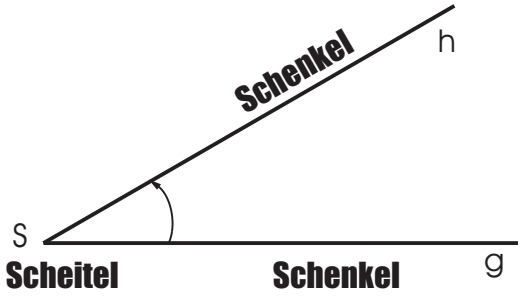




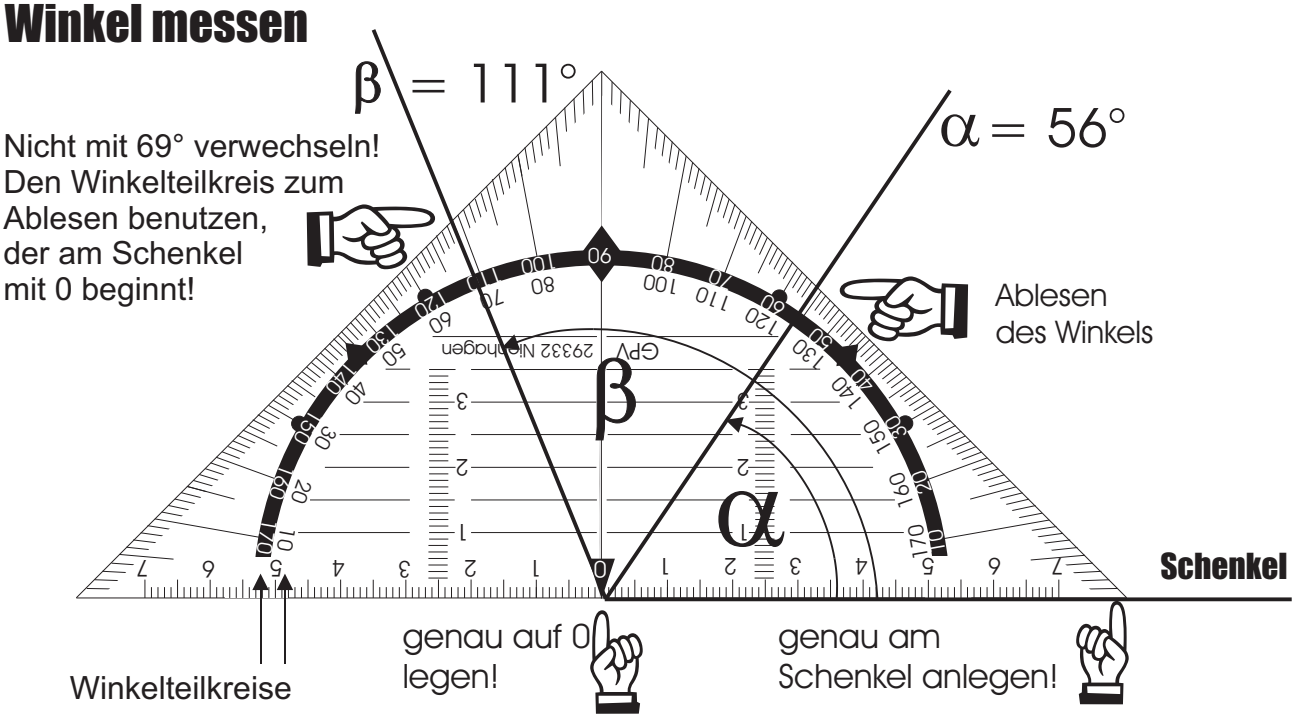
PDF190_1

Winkel und Winkelmessung

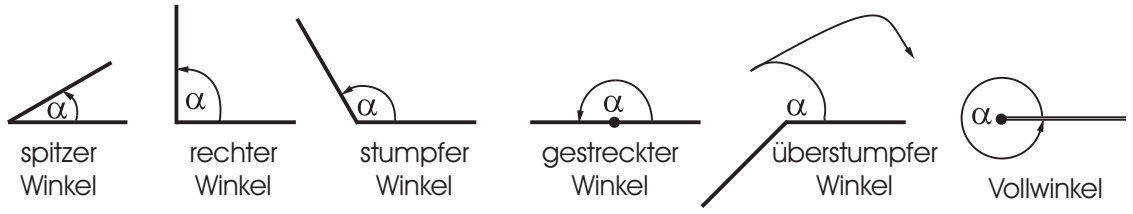
Ein Winkel entsteht durch Drehung einer Halbgeraden um ihren Anfangspunkt (Scheitel). Die beiden Halbgeraden (Schenkel des Winkels) schließen den Winkel ein. Zum Messen und Antragen eines Winkels benutzt man das Geodreieck:



Winkel messen



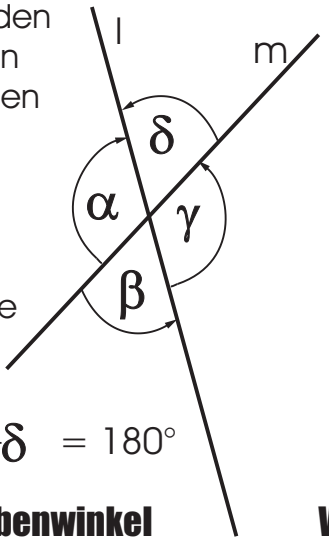
Winkelarten:



Bei zwei sich schneidenden Geraden sind die beiden sich gegenüber liegenden Winkel gleich groß.

$\alpha = \gamma \qquad \beta = \delta$

Scheitelwinkel

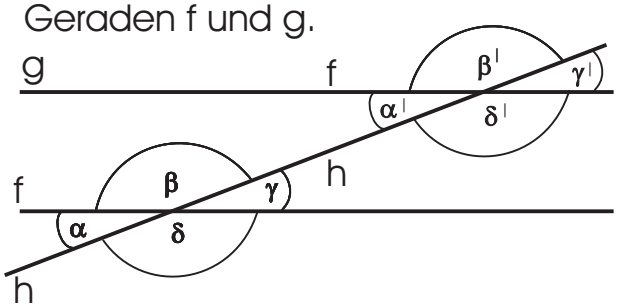


Nebeneinander liegende Winkel ergänzen sich zu 180°. Beispiele:

$\alpha + \delta = 180°$ $\gamma + \delta = 180°$

$\alpha + \beta = 180°$ **Nebenwinkel**

Gerade h schneidet zwei parallele Geraden f und g.



Beispiele:

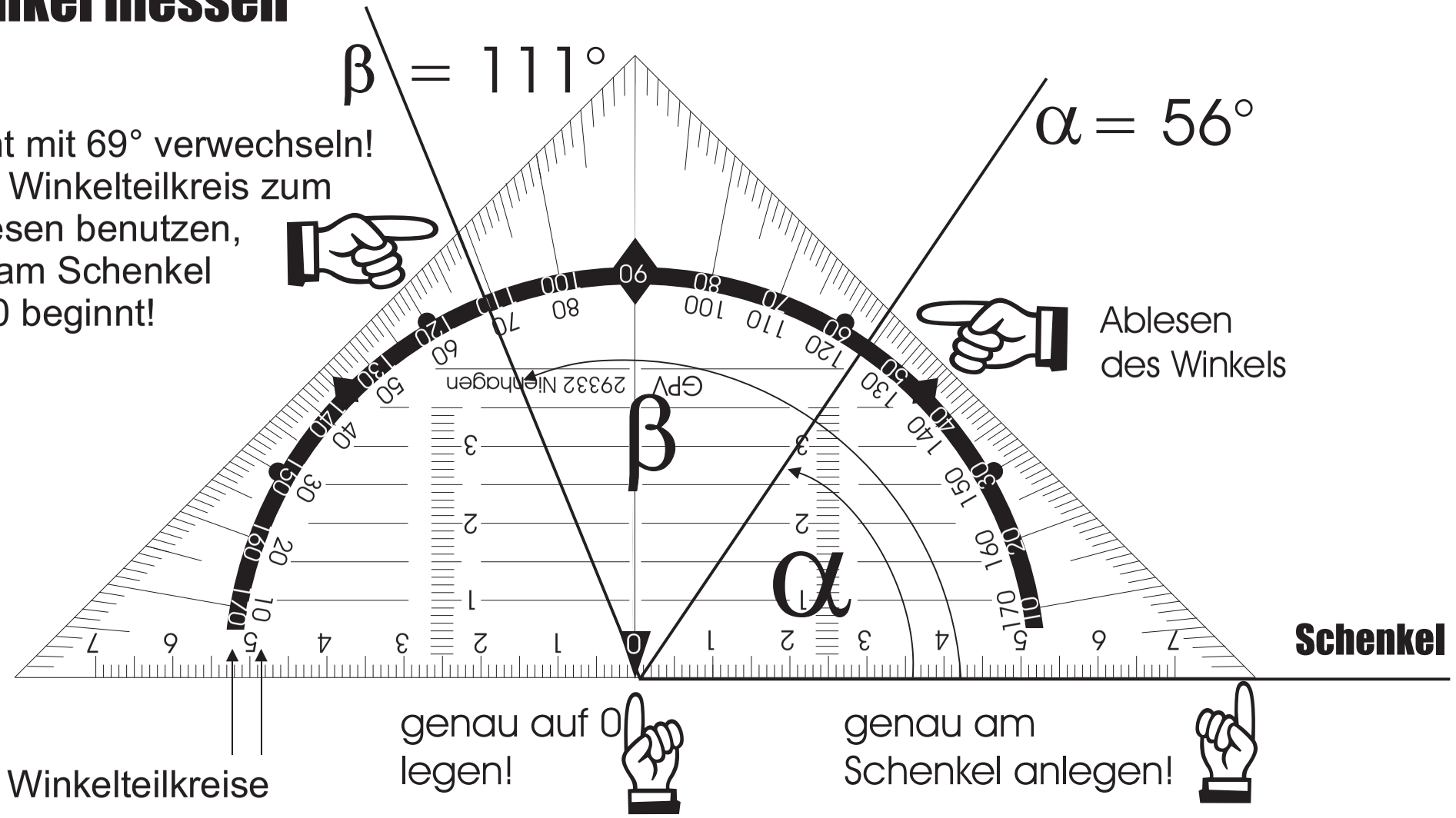
Stufenwinkel: $\alpha = \alpha' \qquad \beta = \beta'$

Wechselwinkel: $\gamma = \alpha' \qquad \beta = \delta'$

PDF190_1

Winkelmessung mit dem Geodreieck

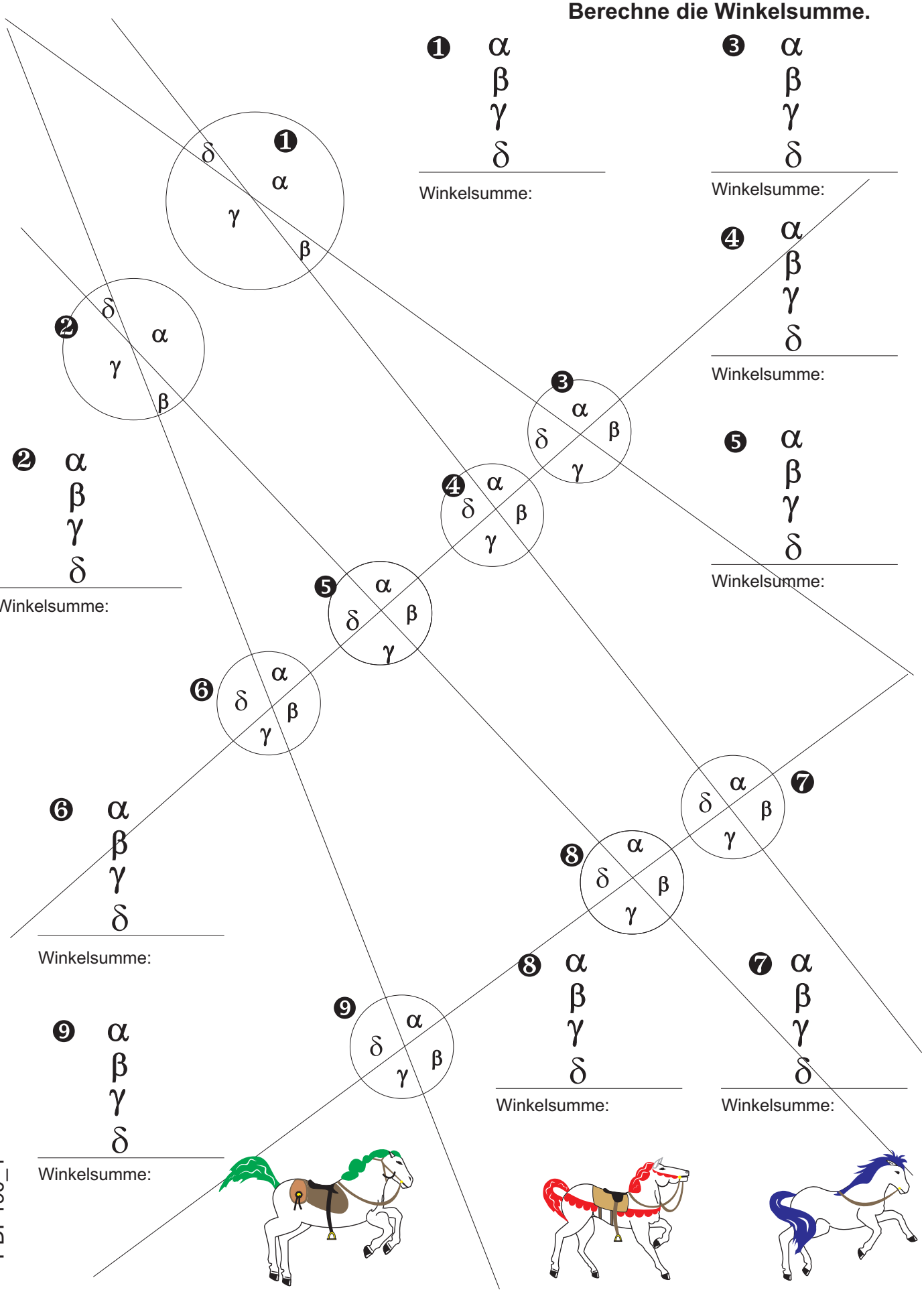
Winkel messen



Name, Datum

Messen von Winkeln

Bestimme die Winkelgröße.
Berechne die Winkelsumme.



❶ α β γ δ

Winkelsumme:

❷ α β γ δ

Winkelsumme:

❸ α β γ δ

Winkelsumme:

❹ α β γ δ

Winkelsumme:

❺ α β γ δ

Winkelsumme:

❻ α β γ δ

Winkelsumme:

❼ α β γ δ

Winkelsumme:

❽ α β γ δ

Winkelsumme:

❾ α β γ δ

Winkelsumme:

PDF190_1

Lösungsblatt

Name, Datum

Messen von Winkeln

Bestimme die Winkelgröße.
Berechne die Winkelsumme.

❶ $\alpha = 163{,}7°$
$\beta = 16{,}2°$
$\gamma = 163{,}7°$
$\delta = 16{,}2°$

Winkelsumme: 360°

❷ $\alpha = 158°$
$\beta = 22°$
$\gamma = 158°$
$\delta = 22°$

Winkelsumme:

❸ $\alpha = 102{,}7°$
$\beta = 77{,}3°$
$\gamma = 102{,}7°$
$\delta = 77{,}3°$

Winkelsumme:

❹ $\alpha = 86{,}2°$
$\beta = 93{,}8°$
$\gamma = 86{,}2°$
$\delta = 93{,}8°$

Winkelsumme:

❺ $\alpha = 91{,}6°$
$\beta = 88{,}4°$
$\gamma = 91{,}6°$
$\delta = 88{,}4°$

Winkelsumme:

❻ $\alpha = 70°$
$\beta = 110°$
$\gamma = 70°$
$\delta = 110°$

Winkelsumme:

❼ $\alpha = 91{,}5°$
$\beta = 88{,}5°$
$\gamma = 91{,}5°$
$\delta = 88{,}5°$

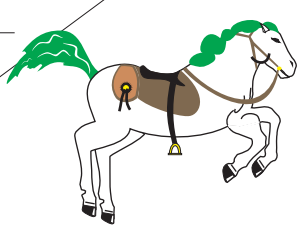
Winkelsumme:

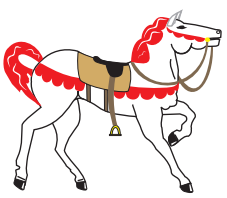
❽ $\alpha = 97°$
$\beta = 83°$
$\gamma = 97°$
$\delta = 83°$

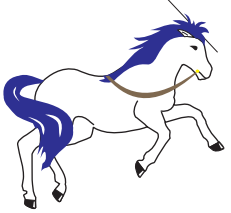
Winkelsumme:

❾ $\alpha = 75°$
$\beta = 105°$
$\gamma = 75°$
$\delta = 105°$

Winkelsumme:







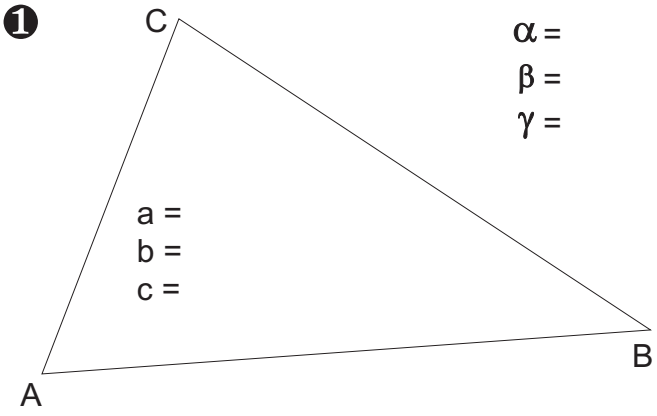
PDF190_1

Name, Datum

Messen von Winkeln

Bestimme die Maße der Dreiecke.
Berechne die Winkelsumme.

❶



α =
β =
γ =

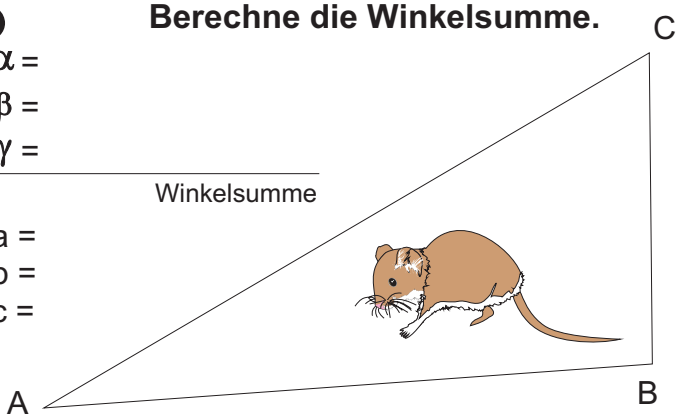
a =
b =
c =

❷

α =
β =
γ =

Winkelsumme

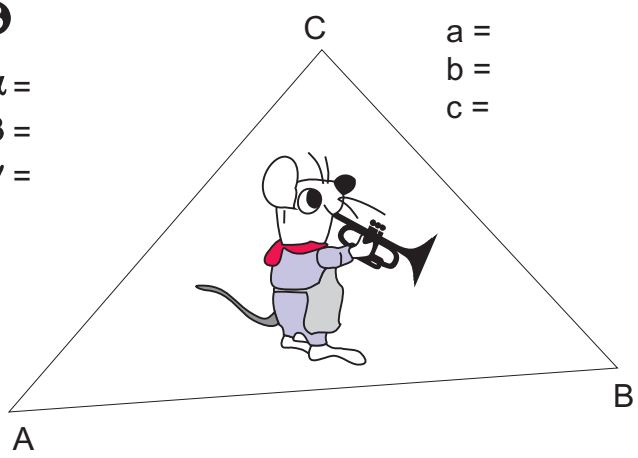
a =
b =
c =



❸

α =
β =
γ =

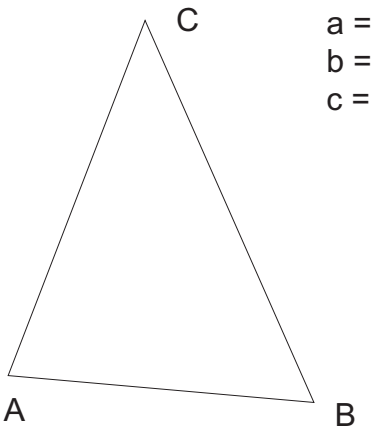
a =
b =
c =



❹

α =
β =
γ =

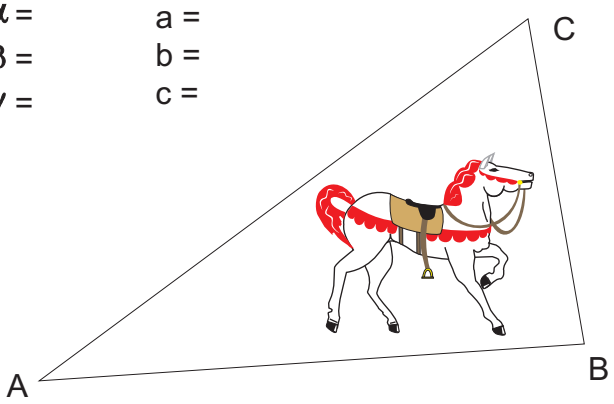
a =
b =
c =



❺

α =
β =
γ =

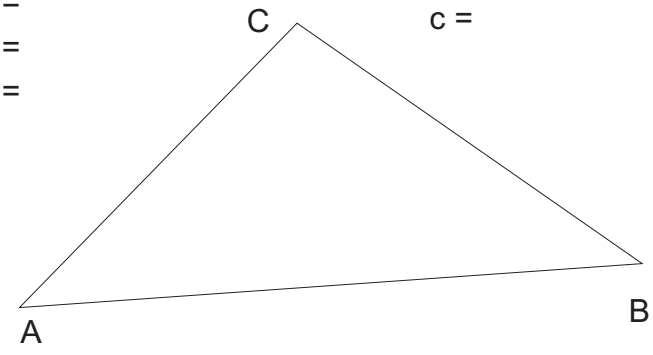
a =
b =
c =



❻

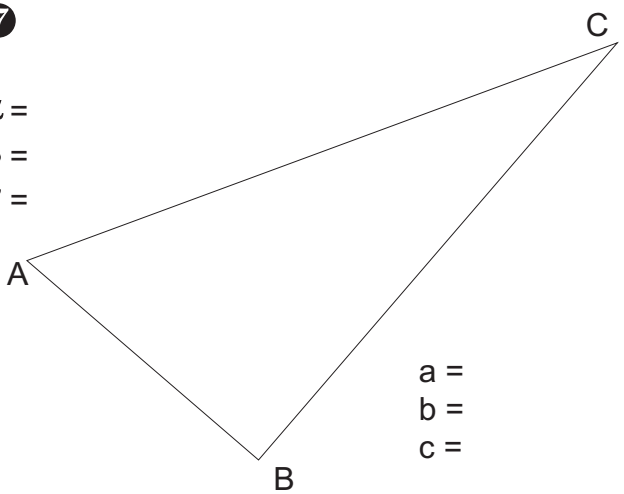
α =
β =
γ =

a =
b =
c =



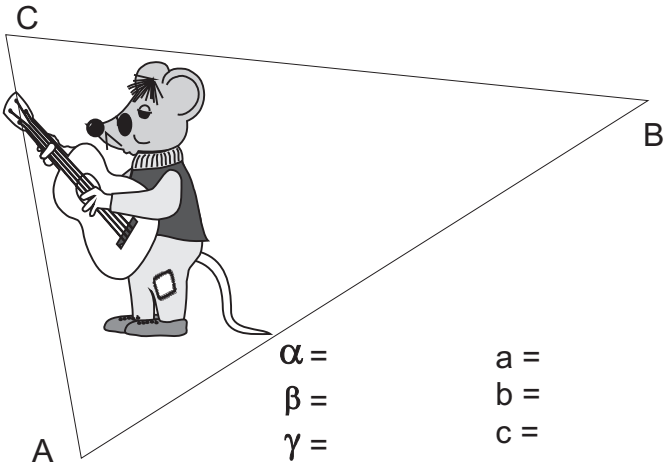
❼

α =
β =
γ =



a =
b =
c =

❽



α =
β =
γ =

a =
b =
c =

PDF190_1

Lösungsblatt

Name, Datum

Messen von Winkeln

Bestimme die Maße der Dreiecke.
Berechne die Winkelsumme.

❶

C

α = 65°
β = 37,7°
γ = 77,3°

a = 7,46 cm
b = 5,04 cm
c = 8,05 cm

A B

❷

α = 26,1°
β = 93,4°
γ = 60,5°

Winkelsumme

a = 4,1 cm
b = 9,3 cm
c = 8,05 cm

C

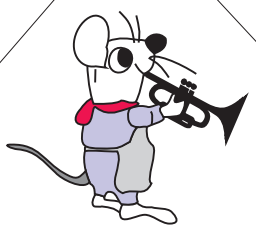
A B

❸

α = 45°
β = 51°
γ = 83,2°

C

a = 5,75 cm
b = 6,3 cm
c = 8,1 cm



A B

❹

α = 74,1°
β = 61,3°
γ = 44,6°

C

a = 5,54 cm
b = 5,04 cm
c = 4,08 cm

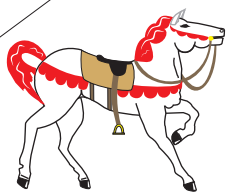
A B

❺

α = 32,7°
β = 84°
γ = 63,3°

a = 4,35 cm
b = 8,02 cm
c = 7,2 cm

C



A B

❻

α = 41,7°
β = 38,7°
γ = 99,6°

a = 5,6 cm
b = 5,25 cm
c = 8,26 cm

C

A B

❼

α = 60,7°
β = 90°
γ = 29,3°

C

A B

a = 7,25 cm
b = 8,37 cm
c = 4,06 cm

❽

C

B

A

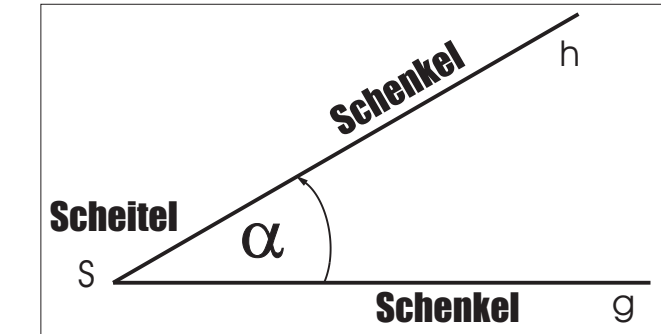
α = 67,9°
β = 38,1°
γ = 74°

a = 8,54 cm
b = 5,67 cm
c = 8,84 cm

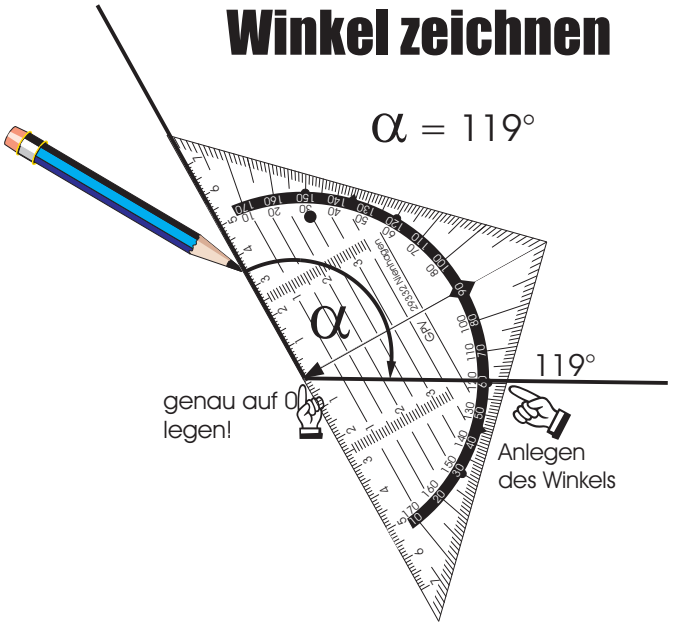
PDF190_1

Name, Datum

Zeichnen von Winkeln



Winkel zeichnen



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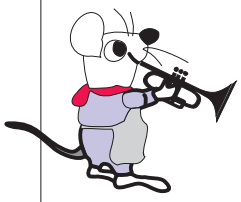
Zum Messen und Antragen eines Winkels benutzt man das Geodreieck.



Drehe die Halbgerade g um S im angegebenen Winkel!

❶ S
α = 19°

❷ S
α = 262°

❸ S
α = 55°

❹ S
α = 56°

S
α = 97°
❺

❻ S
α = 98°

❼ S
α = 371°

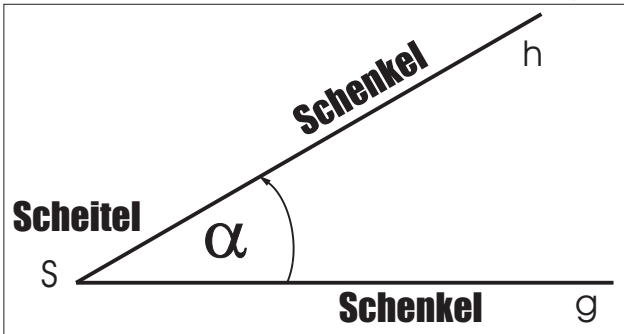
❽ S
α = 340°

S
α = 190°
❾

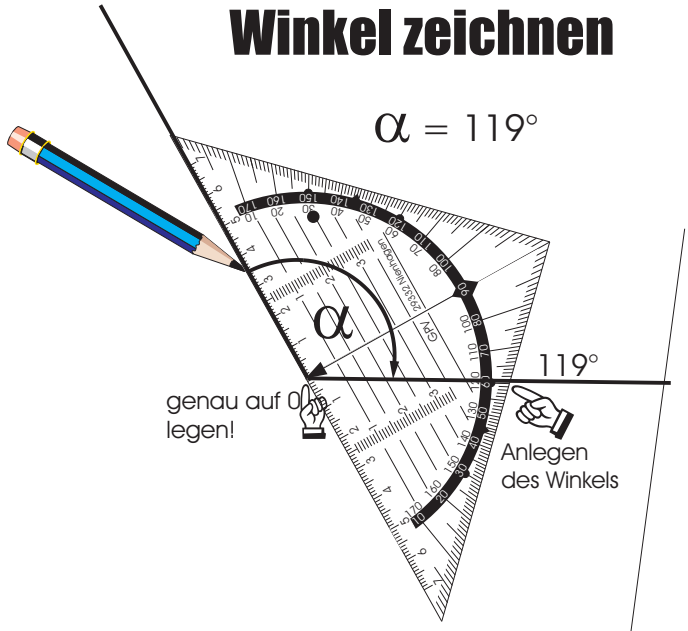
❿ S
α = 17°

PDF190_1

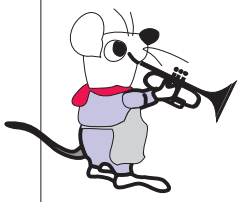
Zeichnen von Winkeln



Winkel zeichnen



Ein Winkel entsteht durch Drehung einer Halbgeraden um ihren Anfangspunkt (Scheitel). Die beiden Halbgeraden (Schenkel des Winkels) schließen den Winkel ein.
Zum Messen und Antragen eines Winkels benutzt man das Geodreieck.



Drehe die Halbgerade g um S im angegebenen Winkel!

❶ S
α = 19°

❷ S
α = 262°

❸ S
α = 55°

❹ S
α = 56°

S
α = 97°
❺

❻ S
α = 98°

❽ S
α = 340°

S
α = 371°
❼

S
α = 190°
❾

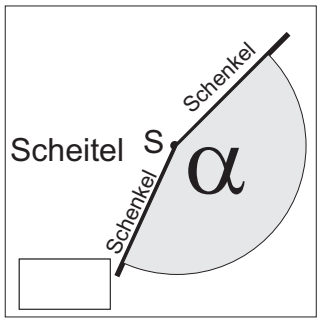
❿ S
α = 17°

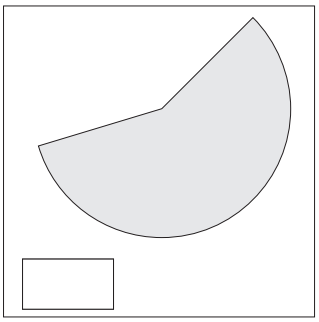
PDF190_1

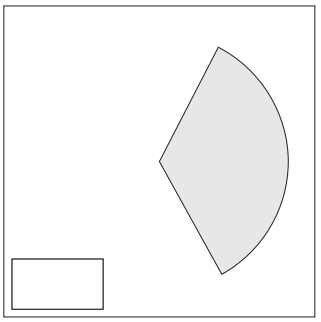
Name, Datum

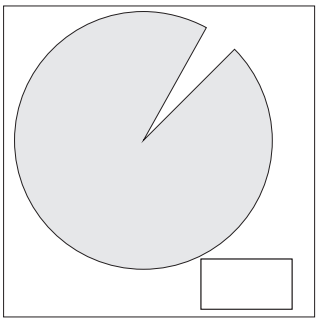
Schätzen von Winkeln

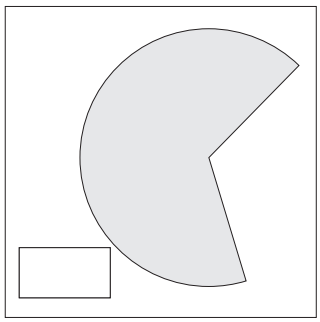
Schätze die Größe des Winkels, den der graue Teilkreis umschließt und trage das Schätzergebnis ein.

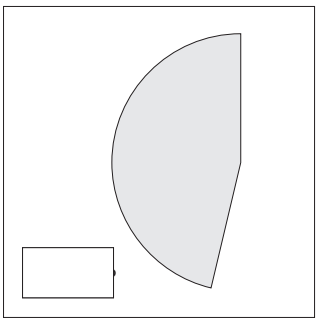


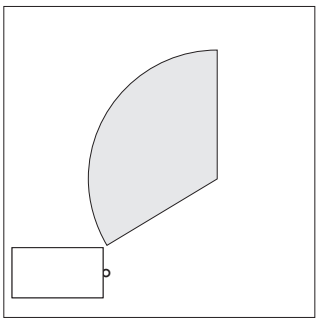


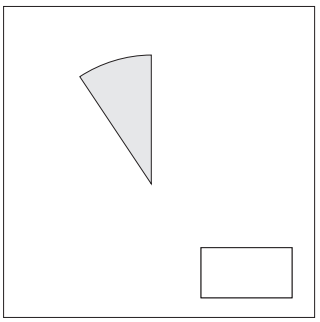


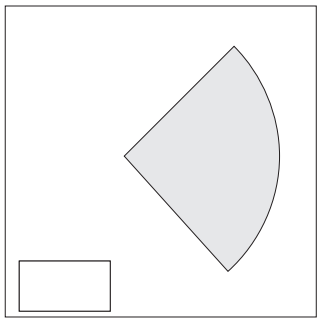


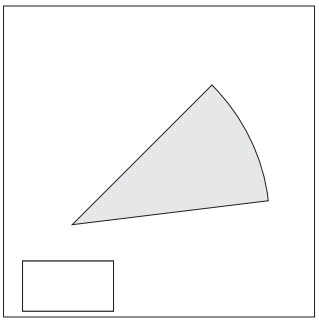


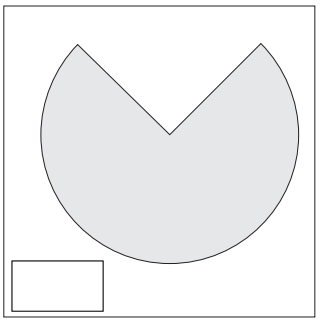


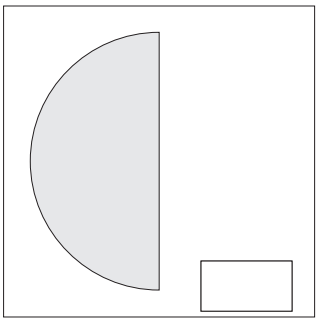


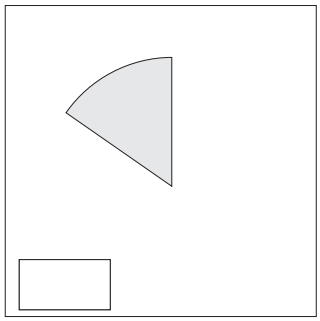


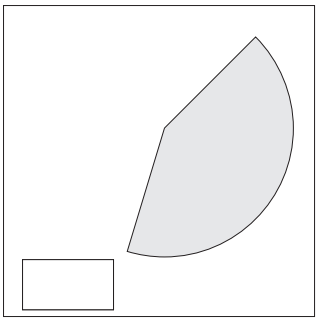


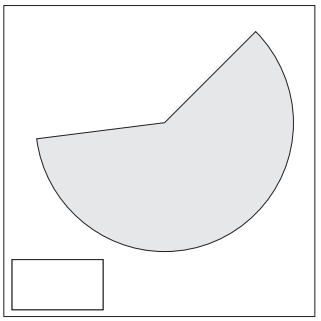


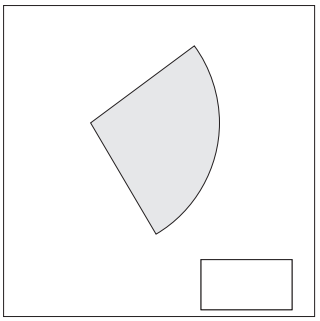


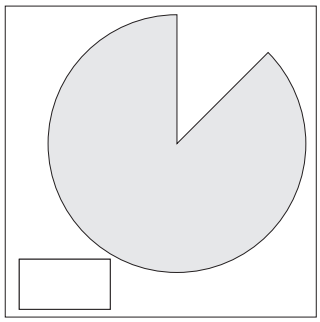


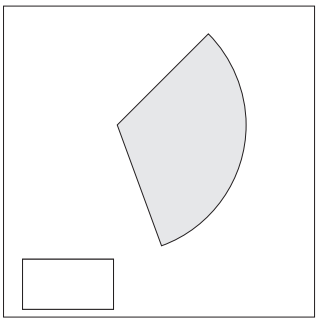


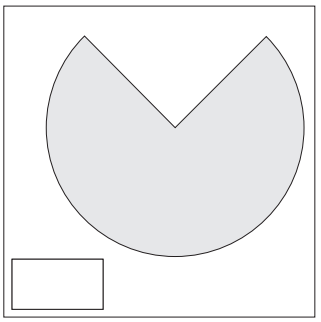


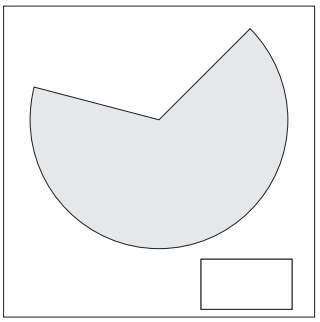












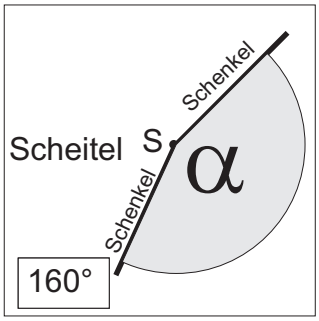
PDF190_1

Lösungsblatt

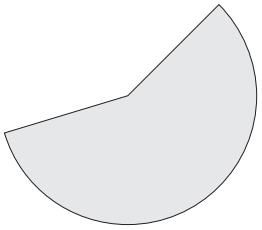
Name, Datum

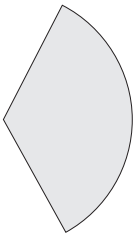
Schätzen von Winkeln

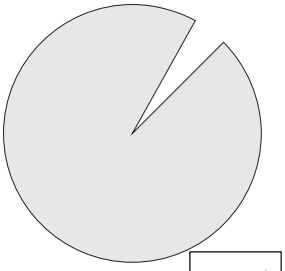
Schätze die Größe des Winkels, den der graue Teilkreis umschließt und trage das Schätzergebnis ein.

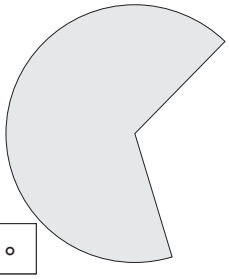


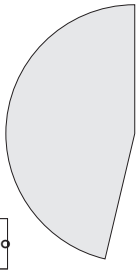
160°

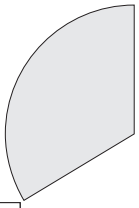

208°

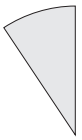

124°

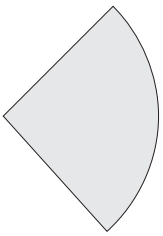

344°

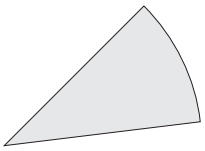

241°

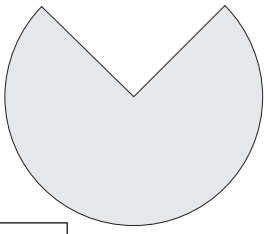

166,7°

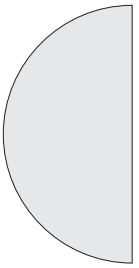

121,1°

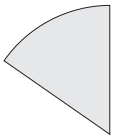

33,8°

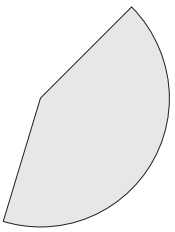

93°

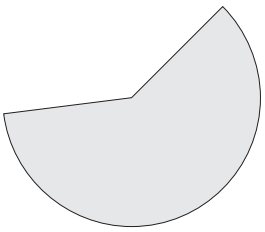

38°

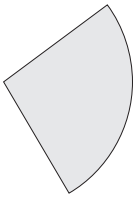

269°

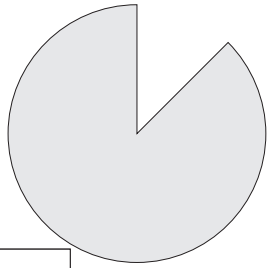

180°

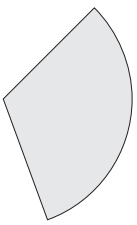

55°

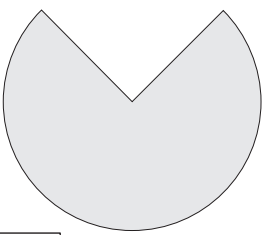

152°

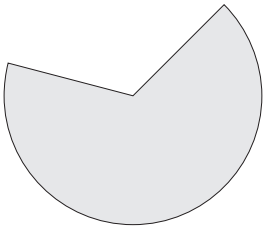

218°


96,2°


315°


115°


270°


240°

PDF190_1