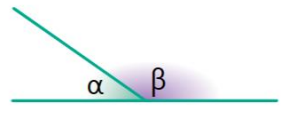
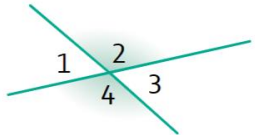
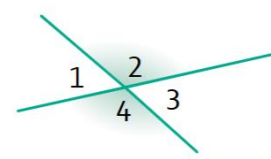


Krustleņķi un blakusleņķi

Teorija

 $\sphericalangle \alpha$ un $\sphericalangle \beta$ ir blakusleņķi. $\sphericalangle \alpha + \sphericalangle \beta = 180^\circ$ Blakusleņķu summa ir 180°	 Blakusleņķi ir: $\sphericalangle 1$ un $\sphericalangle 2$ $\sphericalangle 2$ un $\sphericalangle 3$ $\sphericalangle 3$ un $\sphericalangle 4$ $\sphericalangle 1$ un $\sphericalangle 4$	 Krustleņķu pāri ir $\sphericalangle 1$ un $\sphericalangle 3$, $\sphericalangle 2$ un $\sphericalangle 4$. Krustleņķi ir vienādi. $\sphericalangle 1 = \sphericalangle 3$; $\sphericalangle 2 = \sphericalangle 4$
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Uzdevumu veidi

Atpazīt krustleņķi
 Atpazīt blakusleņķi
 Aprēķināt leņķa lielumu, ja zināms viens no krustleņķiem
 Aprēķināt leņķa lielumu, ja zināms viens no blakusleņķiem
 Aprēķināt leņķa lielumu, ja zināma krustleņķu summa

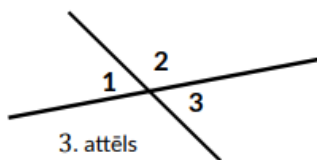
Uzdevumu paraugi

20. uzdevums (1 punkts)

Dotas divas krustiskas taisnes (3. attēls).

Zināms, ka $\sphericalangle 1 + \sphericalangle 3 = 170^\circ$. Aprēķini $\sphericalangle 2$ lielumu.

A 190° B 85° C 90° **D 95°**

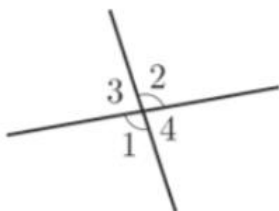


3. attēls

$$\sphericalangle 1 = \sphericalangle 3 = 170^\circ : 2 = 85^\circ$$

$$\sphericalangle 2 = 180^\circ - 85^\circ = 95^\circ$$

2. Krustojoties divām taisnēm, izveidojas četri leņķi. Aprēķini šos leņķus, ja divu krustleņķu summa ir 196° !



Dots: $\sphericalangle 1 + \sphericalangle 2 = 196^\circ$

Jāaprēķina: $\sphericalangle 1$, $\sphericalangle 2$, $\sphericalangle 3$, $\sphericalangle 4$

Atrisinājums. Pēc dotā $\sphericalangle 1$ un $\sphericalangle 2$ ir krustleņķi, tāpēc tie ir vienādi:

$$\sphericalangle 1 = \sphericalangle 2 = 196^\circ : 2 = 98^\circ.$$

Tā kā $\sphericalangle 2$ un $\sphericalangle 3$ ir blakusleņķi un pēc teorēmas par blakusleņķu summu

$$\sphericalangle 2 + \sphericalangle 3 = 180^\circ,$$

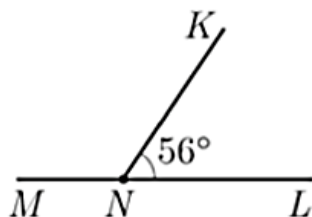
tad

$$\sphericalangle 3 = 180^\circ - \sphericalangle 2 = 180^\circ - 98^\circ = 82^\circ.$$

Tā kā $\sphericalangle 3$ un $\sphericalangle 4$ ir krustleņķi, tad $\sphericalangle 3 = \sphericalangle 4 = 82^\circ$.

Atbilde. 98° ; 98° ; 82° ; 82°

Aprēķini blakusleņķi 56° lielam leņķim!



Dots: $\sphericalangle LNK = 56^\circ$

Jāaprēķina: $\sphericalangle MNK$

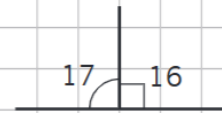
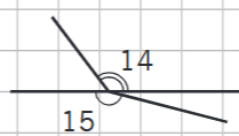
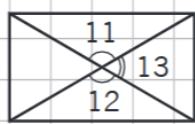
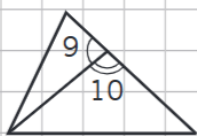
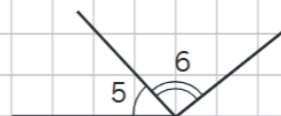
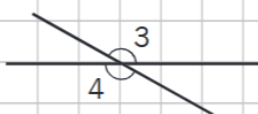
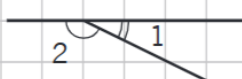
Atrisinājums. Tā kā leņķi MNK un LNK ir blakusleņķi, tad

$$\sphericalangle MNK + \sphericalangle LNK = 180^\circ.$$

$$\sphericalangle MNK + 56^\circ = 180^\circ \Rightarrow \sphericalangle MNK = 180^\circ - 56^\circ = \underline{124^\circ}$$

Uzdevumi treniņam

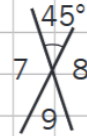
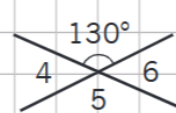
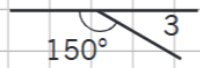
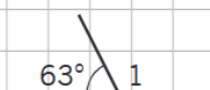
Kuri no leņķiem ir blakusleņķi, un kuri — krustleņķi?



Blakusleņķi ir

Krustleņķi ir

Aprēķini leņķus!



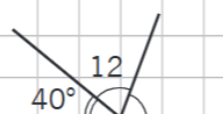
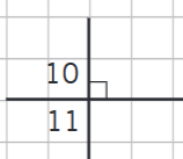
$$\sphericalangle 1 = \dots\dots\dots$$

$$\sphericalangle 2 = \dots\dots\dots$$

$$\sphericalangle 3 = \dots\dots\dots$$

$$\sphericalangle 4 = \dots\dots\dots$$

$$\sphericalangle 7 = \dots\dots\dots$$



$$\sphericalangle 5 = \dots\dots\dots$$

$$\sphericalangle 8 = \dots\dots\dots$$

$$\sphericalangle 6 = \dots\dots\dots$$

$$\sphericalangle 9 = \dots\dots\dots$$

$$\sphericalangle 10 = \dots\dots\dots$$

$$\sphericalangle 12 = \dots\dots\dots$$

$$\sphericalangle 11 = \dots\dots\dots$$

Aprēķināt dotā leņķa blakusleņķi, ja dotais leņķis ir

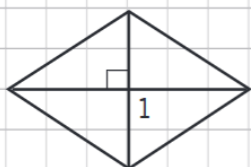
1) 42° ;

2) 38° ;

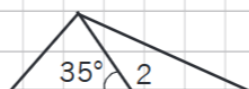
3) 117° ;

4) 124° .

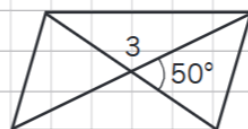
Aprēķini leņķa lielumu!



$$\sphericalangle 1 = \dots\dots\dots$$



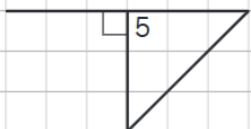
$$\sphericalangle 2 = \dots\dots\dots$$



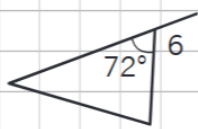
$$\sphericalangle 3 = \dots\dots\dots$$



$$\sphericalangle 4 = \dots\dots\dots$$



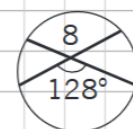
$$\sphericalangle 5 = \dots\dots\dots$$



$$\sphericalangle 6 = \dots\dots\dots$$

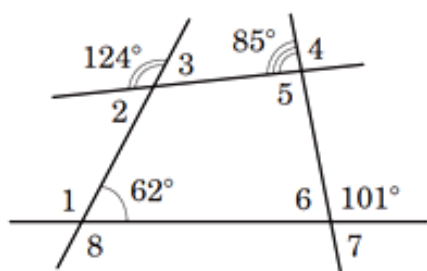
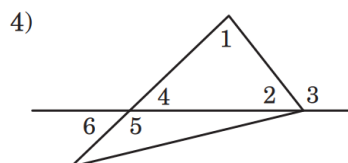
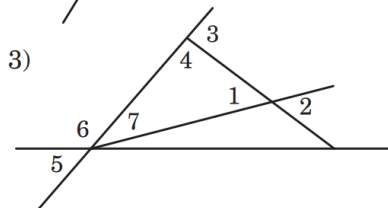
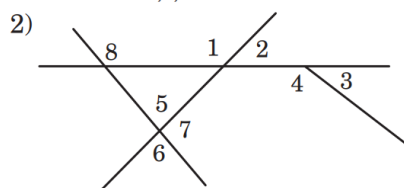
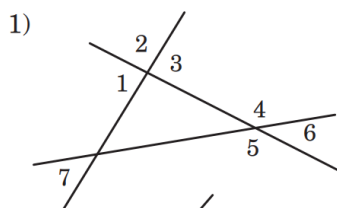


$$\sphericalangle 7 = \dots\dots\dots$$



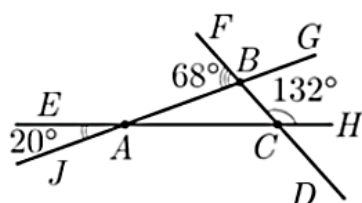
$$\sphericalangle 8 = \dots\dots\dots$$

Nosaukt attēlā redzamos krustleņķus un blakusleņķus.



Izmantojot doto attēlu, aprēķināt

- 1) $\sphericalangle 1$; $\sphericalangle 2$;
- 2) $\sphericalangle 3$; $\sphericalangle 4$;
- 3) $\sphericalangle 5$; $\sphericalangle 6$;
- 4) $\sphericalangle 7$; $\sphericalangle 8$.



57. att. trīs leņķu lielumi ir doti. Atrodi doto leņķu blakusleņķus un aprēķini to lielumu!

57. att.