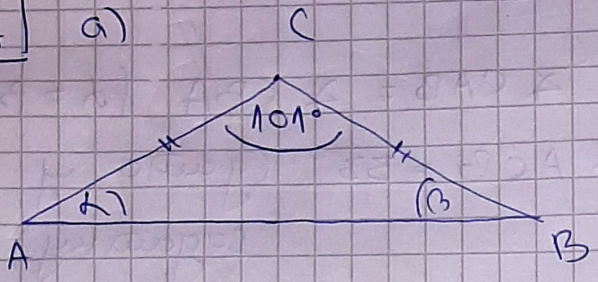
Вежбање

267 а)



$\sphericalangle ACB = 101^\circ$ (γ)

$AC = BC$

$\sphericalangle CAB = \sphericalangle ABC$ $(\alpha = \beta)$

$\sphericalangle CAB + \sphericalangle ABC + \sphericalangle ACB = 180^\circ$ (збир углова у троуглу ABC)

$\sphericalangle CAB + \sphericalangle CAB + 101^\circ = 180^\circ$

$2 \cdot \sphericalangle CAB + 101^\circ = 180^\circ$

$2 \cdot \sphericalangle CAB = 180^\circ - 101^\circ$

$2 \cdot \sphericalangle CAB = 79^\circ$

$\sphericalangle CAB = 79^\circ : 2$

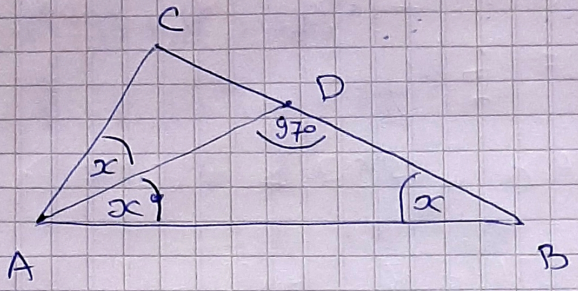
$\sphericalangle CAB = 78^\circ 60' : 2$

$\sphericalangle CAB = 39^\circ 30' = \sphericalangle ABC$

$\alpha = \beta = 39^\circ 30'$

$\gamma = 101^\circ$

270



∢CAD = ∢DAB (јер је AD симетрала угла CAB)

- Нека је тај угао ∢CAD = ∢DAB = x

AD = DB

∢DAB = ∢DBA

x = ∢DBA

∢CAD = ∢DAB = ∢DBA = x

$x + x + 97^\circ = 180^\circ$ (збир углова у троуглу ADB)

$2x + 97^\circ = 180^\circ$

$2x = 83^\circ$

$x = 83^\circ : 2 = 82^\circ 60' : 2 = 41^\circ 30'$

∢CAB = 2x = 83°

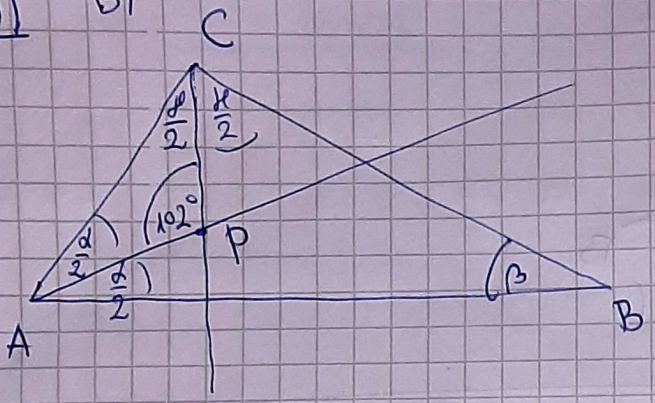
∢ABC = x = $41^\circ 30'$

∢ACD = $180^\circ - (∢CAB + ∢ABC)$

$= 180^\circ - (83^\circ + 41^\circ 30') = 180^\circ - 124^\circ 30'$

$= 179^\circ 60' - 124^\circ 30' = 55^\circ 30'$

2.71 В)



$\alpha_1 = 132^\circ$

$\alpha + \alpha_1 = 180^\circ$

$\alpha = 180^\circ - 132^\circ$

$\boxed{\alpha = 48^\circ}$

$\boxed{\frac{\alpha}{2} = 48^\circ : 2 = 24^\circ}$

$\frac{\gamma}{2} + \frac{\alpha}{2} + 102^\circ = 180^\circ$ (збір углова у трокутку ACP)

$\frac{\gamma}{2} + 24^\circ + 102^\circ = 180^\circ$

$\frac{\gamma}{2} = 180^\circ - 126^\circ$

$\frac{\gamma}{2} = 54^\circ$

$\gamma = 54^\circ \cdot 2$

$\boxed{\gamma = 108^\circ}$

$\alpha + \beta + \gamma = 180^\circ$ (збір углова у трокутку ABC)

$48^\circ + \beta + 108^\circ = 180^\circ$

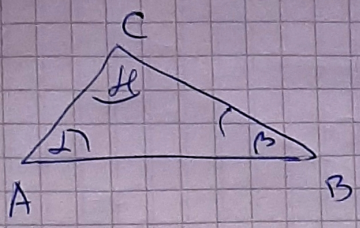
$\beta = 180^\circ - 108^\circ - 48^\circ$

$\boxed{\beta = 180^\circ - 156^\circ = 24^\circ}$

$\beta < \alpha < \gamma$

$\rightarrow \boxed{b < a < c}$

(237)



$\beta = 2 \cdot \alpha$

$\gamma = 3 \cdot \alpha$

$\alpha + \beta + \gamma = 180^\circ$

$\alpha + 2 \cdot \alpha + 3 \cdot \alpha = 180^\circ$

$6 \cdot \alpha = 180^\circ$

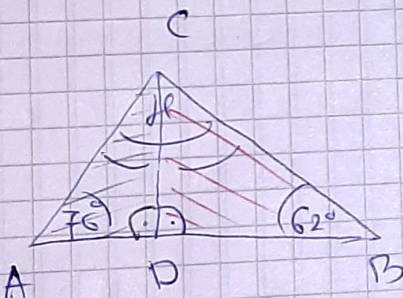
$\alpha = 180^\circ : 6$

$\alpha = 30^\circ$

$\beta = 2 \cdot \alpha = 60^\circ$

$\gamma = 3 \cdot \alpha = 90^\circ$

245



$CD \perp AB$ ($\sphericalangle CDA = 90^\circ$, $\sphericalangle CDB = 90^\circ$)

$\sphericalangle CAD = 76^\circ$

$\sphericalangle ABC = 62$

$\sphericalangle CAD + \sphericalangle ADC + \sphericalangle ACD = 180^\circ$ (ЗБИР УГЛОВА У ТРОУГЛУ ADC)

$76^\circ + 90^\circ + \sphericalangle ACD = 180^\circ$

$\sphericalangle ACD = 180^\circ - (76^\circ + 90^\circ)$

$\boxed{\sphericalangle ACD = 180^\circ - 166^\circ = 14^\circ}$

$\sphericalangle DCB + \sphericalangle CBD + \sphericalangle CDB = 180^\circ$ / ЗБИР УГЛОВА У ТРОУГЛУ CDB)

$\sphericalangle DCB + 62^\circ + 90^\circ = 180^\circ$

$\boxed{\sphericalangle DCB = 180^\circ - (62^\circ + 90^\circ) = 180^\circ - 152^\circ = 28^\circ}$