

PROBLEME - UNCHINRI

14/171. Ip:

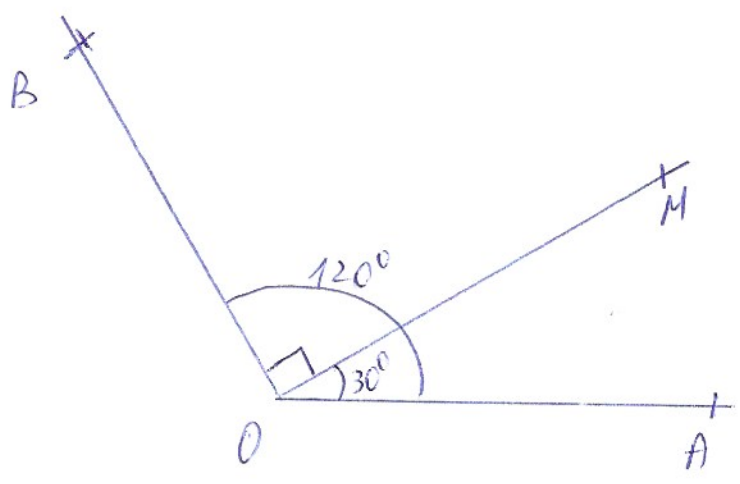
$\angle AOB$

M - in int. $\angle AOB$

$$m(\angle AOB) = 4 \cdot m(\widehat{AOM})$$

$$m(\angle MOB) = 90^\circ$$

cl: $m(\widehat{AOB}) = ?$



Dem:

$$\text{Sin } M \text{ in int. } \angle AOB \Rightarrow m(\widehat{AOM}) + m(\widehat{MOB}) = m(\widehat{AOB})$$

$$m(\widehat{AOM}) + 90^\circ = 4 \cdot m(\widehat{AOM}) \quad | - m(\widehat{AOM})$$

$$90^\circ = 3 \cdot m(\widehat{AOM}) \quad | : 3$$

$$m(\widehat{AOM}) = 30^\circ \Rightarrow m(\widehat{AOB}) = 4 \cdot 30^\circ$$

$$m(\widehat{AOB}) = 120^\circ$$

15/171.

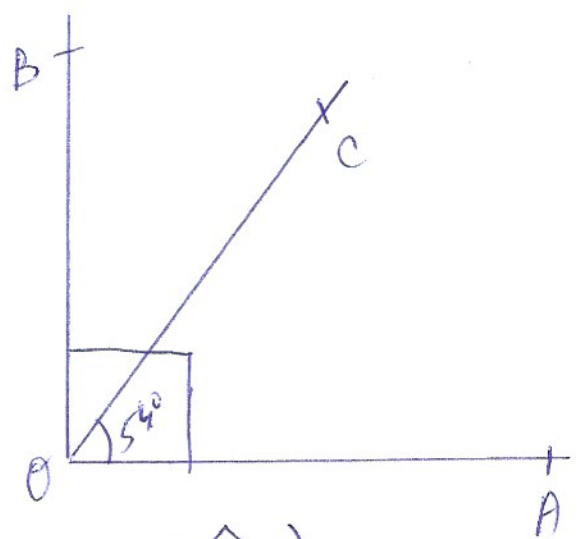
Ip:

$\angle AOB$ - drept

C in Int ($\angle AOB$)

$$m(\widehat{AOC}) = 0,6 \cdot m(\widehat{BOC})$$

cl: $m(\widehat{BOC}) = ?$



Dem:

$$C \in \text{Int}(\widehat{AOB}) \Rightarrow m(\widehat{AOC}) + m(\widehat{COB}) = m(\widehat{AOB})$$

$$0,6 \cdot m(\widehat{BOC}) + m(\widehat{COB}) = 90^\circ$$

$$m(\widehat{BOC}) \cdot \left(\frac{6}{9} + \frac{9}{9}\right) = 90^\circ$$

$$m(\widehat{BOC}) \cdot \frac{15}{9} = 90^\circ \Rightarrow m(\widehat{BOC}) = 90^\circ : \frac{15}{9} = 90^\circ \cdot \frac{9}{15} = 54^\circ$$

17/171. Ip:

$$m(\hat{AOB}) = 24^\circ + x^\circ$$

$$x = \text{nr. nat.} = ?$$

a) $\angle AOB$ acut $\Rightarrow m(\hat{AOB}) < 90^\circ$
 $24^\circ + x^\circ < 90^\circ \quad / -24^\circ$
 $x^\circ < 66^\circ \Rightarrow x = 0, 1, 2, \dots, 65^\circ$

b) $\angle AOB$ drept $\Rightarrow m(\hat{AOB}) = 90^\circ$
 $24^\circ + x^\circ = 90^\circ$
 $x^\circ = 90^\circ - 24^\circ$
 $x^\circ = 66^\circ$

c) $\angle AOB$ obtuz $\Rightarrow 90^\circ < m(\hat{AOB}) < 180^\circ$
 $90^\circ < x^\circ + 24^\circ < 180^\circ \quad / -24^\circ$
 $66^\circ < x^\circ < 156^\circ$
 $x \in \{67^\circ, 68^\circ, 69^\circ, \dots, 155^\circ\}$

d) $\angle AOB$ alungit $\Rightarrow m(\hat{AOB}) = 180^\circ$
 $24^\circ + x^\circ = 180^\circ$
 $x = 180^\circ - 24^\circ$
 $x = 156^\circ$

18/171. Ip:

$[OA], [OB], [OC], [OD], [OE]$ - semidrepte în această ordine

$$m(\hat{BOC}) = 9 \cdot m(\hat{AOB})$$

$$m(\hat{DOE}) = 120^\circ$$

$$m\hat{BOD} = \angle DOE$$

$\angle AOC =$ drept

Cf: $m(\hat{DOC}), m(\hat{EOC}) = ?$

Dim $\widehat{B\hat{E}A} \equiv \widehat{AOC} \Rightarrow m(\widehat{AOB}) + m(\widehat{BOC}) = 90^\circ$

$$m(\widehat{AOB}) + 9 \cdot m(\widehat{AOB}) = 90^\circ$$

$$10 \cdot m(\widehat{AOB}) = 90^\circ$$

$$m(\widehat{AOB}) = 90^\circ : 10$$

$$\boxed{m(\widehat{AOB}) = 9^\circ} \Rightarrow m(\widehat{BOC}) = 9 \cdot 9^\circ = \boxed{81^\circ}$$

Dim $\widehat{BOD} \equiv \widehat{DOE} \Rightarrow m(\widehat{BOD}) = 120^\circ$

$$m(\widehat{DOE}) = 120^\circ / \quad m(\widehat{BOC}) + m(\widehat{COD}) = m(\widehat{BOD})$$

$$81^\circ + m(\widehat{COD}) = 120^\circ$$

$$m(\widehat{COD}) = 120^\circ - 81^\circ$$

$$m(\widehat{COD}) = \boxed{39^\circ}$$

~~$$m(\widehat{COD}) + m(\widehat{DOE}) = 120^\circ$$~~

~~$$39^\circ + m(\widehat{DOE}) = 120^\circ$$~~

~~$$m(\widehat{DOE}) = 120^\circ - 39^\circ$$~~

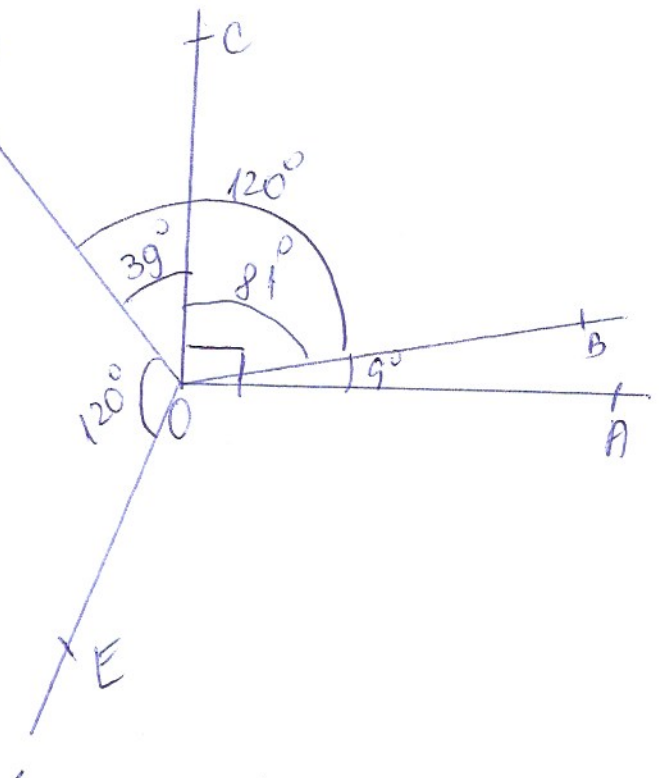
~~$$m(\widehat{DOE}) = \boxed{81^\circ}$$~~

$$m(\widehat{EOC}) = m(\widehat{EOD}) + m(\widehat{DOC})$$

$$m(\widehat{EOC}) = m(\widehat{EOD}) + m(\widehat{DOC})$$

$$m(\widehat{EOC}) = 120^\circ + 39^\circ$$

$$m(\widehat{EOC}) = 159^\circ$$



1. Să se determine x :

a) $x + 16^{\circ}34'23'' = 90^{\circ}$

$$x = 90^{\circ} - 16^{\circ}34'23''$$

$$x = 89^{\circ}60' - 16^{\circ}34'23''$$

$$x = 89^{\circ}59'60'' - 16^{\circ}34'23''$$

$$x = 73^{\circ}25'37''$$

$$90^{\circ} = 89^{\circ}59'60''$$

b) $x + 23^{\circ}45'42'' = 180^{\circ}$

$$x = 180^{\circ} - 23^{\circ}45'42''$$

$$x = 179^{\circ}60' - 23^{\circ}45'42''$$

$$x = 179^{\circ}59'60'' - 23^{\circ}45'42''$$

$$x = 156^{\circ}14'18''$$

$$180^{\circ} = 179^{\circ}59'60''$$

REZOLVAREA UNEI PROBLEME DE GEOMETRIE
(ASEZARE)

Ipoteza (Ip)

- ce se dă

Concluzia (Cl)

- ce se cere

Demonstratia (Dem)

- rezolvarea

Desen

Tema :

manual :

pag 190 / eti 9, 10, 11, 12.