

CLASA A VI-A

1.  $n$  nr. prim și  $n > 2 \Rightarrow n$  nr. impar  $\Rightarrow n + 2011 : 2 \dots\dots\dots 2p$

dacă  $\frac{n+1}{3}$  este reductibilă  $\Rightarrow n+1 : 3 \Rightarrow n+1 = 3k, k \in \mathbb{N} \dots\dots\dots 2p$

vom avea:  $n+2011 = n+1+2010 = 3k+2010 = 3(k+670) \Rightarrow n + 2011 : 3 \dots\dots\dots 2p$

Deoarece  $(2;3) = 1 \Rightarrow n + 2011 : 6 \Rightarrow \frac{n+2011}{6} \in \mathbb{N} \dots\dots\dots 1p$

2.  $\overline{ab} : (a+b)$  și  $\overline{ab} : (a+b) = 7 \dots\dots\dots 1p$

$\Rightarrow \overline{ab} = 7(a+b) \dots\dots\dots 1p$

$10a + b = 7a + 7b \Rightarrow a = 2b \dots\dots\dots 2p$

$\Rightarrow \overline{ab} \in \{21; 42; 63; 84\} \dots\dots\dots 3p$

3.

$m(\widehat{AOB}) = 1^0 + 2^0 + 3^0 + \dots + n^0 \dots\dots\dots 2p$

$m(\widehat{AOB}) = \frac{n(n+1)}{2} = 45^0 \dots\dots\dots 2p$

$\Rightarrow n(n+1) = 90^0 = 9 \cdot 10 \dots\dots\dots 2p$

$\Rightarrow n = 9 \dots\dots\dots 1p$

4. a)  $m(\sphericalangle XOY) = m(\sphericalangle YOZ) = \frac{m(\sphericalangle XOY)}{2}$

$\sphericalangle AOB - \text{alungit} \Rightarrow m(\sphericalangle AOB) = 180^0 \dots\dots\dots 1p$

$m(\sphericalangle YOZ) = \frac{m(\sphericalangle BOX)}{8} \Rightarrow m(\sphericalangle BOX) = 8m(\sphericalangle YOZ)$

$2m(\sphericalangle BOX) + 2m(\sphericalangle YOZ) = 180^0 \dots\dots\dots 1p$

$18m(\sphericalangle YOZ) = 180^0$

Finalizare :  $m(\sphericalangle XOY) = 20^0 \dots\dots\dots 1p$

b)  $\triangle LOT \cong \triangle ROT (LUL) \dots\dots\dots 1p$

$[LT] \cong [RT] \Rightarrow \triangle TLR \text{ isoscel} \dots\dots\dots 1p$

c)  $\sphericalangle OTL \cong \sphericalangle OTR$  și  $\sphericalangle EOT \cong \sphericalangle COT \dots\dots\dots 1p$