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etapa județeană 18.03.2017

Barem de corectare - Clasa a VI-a

Problema 1. (7 puncte)

$$2|n^3 \Rightarrow 2|n, n = 2$$

$$A = 2 + 2 + 2^2 + 2^3 + \dots + 2^{2017} = 2^{2018}$$

$$U(A) = 4$$

(2 puncte)

(3 puncte)

(2 puncte)

Problema 2. (7 puncte)

a) $2=1+1$

$$4=1+1+2$$

$$7=1+1+2+3$$

$$11=1+1+2+3+4$$

Următorii trei termeni sunt: 16, 22, 29

b) $T_{50} = 1 + 1 + 2 + 3 + \dots + 49 = 1226$

c) $1+1+2+3+\dots+x=2017 \Rightarrow x=63$, deci este al 64-lea termen

(3 puncte)

(2 puncte)

(2 puncte)

Problema 3. (7 puncte)

$$a = \frac{5b}{8}, c = \frac{3b}{2}$$

$$\frac{25b}{4} + 3b - \frac{3b}{2} = 248$$

$$b = 32, a = 20, c = 48$$

(3 puncte)

(2 puncte)

(2 puncte)

Problema 4. (7 puncte)

desen corect

a)
$$\left. \begin{array}{l} ME = AC \\ ED = AB \\ (\sphericalangle DEM) \equiv (\sphericalangle BAC) \end{array} \right\} \begin{array}{l} \text{L.U.L} \\ \Rightarrow \Delta MED \equiv \Delta CAB \Rightarrow [MD] \equiv [BC] \end{array}$$

(1 punct)

(3 puncte)

b)
$$\left. \begin{array}{l} MD = BC \\ AD = EB \\ (\sphericalangle ADM) \equiv (\sphericalangle EBC) \end{array} \right\} \begin{array}{l} \text{L.U.L} \\ \Rightarrow \Delta MAD \equiv \Delta CEB \Rightarrow [MA] \equiv [EC] \end{array}$$

(3 puncte)