

**CONCURSUL “DAN BARBILIAN – matematician si poet”****EDIȚIA a XV-a, 22 noiembrie 2025****CLASA a VI-a - BAREM DE CORECTARE****I. (25p)**

1.(5p)	2.(5p)	3.(5p)	4.(5p)	5.(5p)
a	c	d	e	c

II. (20p)**1. (10p)****a) (5p)**

$$\begin{aligned} z - x^2 = 13 &\Rightarrow z = 13 + x^2 & 1) & \dots\dots\dots 1p \\ z - xy = 7 &\Rightarrow z = 7 + xy & 2) & \dots\dots\dots 1p \\ 1), 2) &\Rightarrow 13 + x^2 = 7 + xy \Rightarrow & & \dots\dots\dots 1p \\ &\Rightarrow 6 + x^2 = xy \Rightarrow & & \dots\dots\dots 1p \\ &\Rightarrow 6 = xy - x^2 & & \dots\dots\dots 1p \end{aligned}$$

b) (5p)

$$\begin{aligned} 6 = xy - x^2 &\Rightarrow 6 = x (y - x) & \dots\dots\dots 1p \\ \text{I. } x = 2 &\Rightarrow y = 3 \Rightarrow z = 17 & \dots\dots\dots 2p \\ \text{II. } x = 3 &\Rightarrow y = 2 \Rightarrow z = 22 \text{ nu este prim, deci nu convine} & \dots\dots\dots 2p \end{aligned}$$

2. (10p)**a) (5p)**

$$\begin{aligned} AC = 3AB, AC = AB + BC &\Rightarrow BC = 2AB & 1) & \dots\dots\dots 1p \\ N \text{ mijlocul lui } BC &\Rightarrow BN = NC & 2) & \dots\dots\dots 1p \\ 1), 2) &\Rightarrow AB = BN = NC & & \dots\dots\dots 1p \\ AN = AB + BN, AN = 10 \text{ cm} &\Rightarrow AB = 5 \text{ cm} & & \dots\dots\dots 2p \end{aligned}$$

b) (5p)

$$\begin{aligned} M \text{ mijlocul lui } AB &\Rightarrow AM = MB = 2,5 \text{ cm} & \dots\dots\dots 2p \\ AB = 5 \text{ cm} &\Rightarrow BN = 5 \text{ cm} & \dots\dots\dots 1p \\ MN = MB + BN & & \dots\dots\dots 1p \\ MN = 7,5 \text{ cm} & & \dots\dots\dots 1p \end{aligned}$$