

Домаћи рад Матија Копривица 3-3

1142.

$$a_1 = 2$$

$$a_n = a_1 + (n - 1)d$$

$$a_8 = 23$$

$$a_{15} = ?$$

$$a_{15} = a_1 + (15 - 1)d$$

$$a_8 = a_1 + 7d$$

$$a_{15} = 2 + 14 \cdot 3$$

$$23 = 2 + 7d$$

$$a_{15} = 44$$

$$7d = 21$$

$$d = 3$$

1145.

$$a_1 + a_2 + a_3 = 27$$

$$a_1^2 + a_2^2 + a_3^2 = 275$$

$d > 0$ – растући низ

$$(a_1, a_2, a_3, \dots) = ?$$

$$a_1 + a_1 + d + a_1 + 2d = 27$$

$$a_1^2 + (a_1 + d)^2 + (a_1 + 2d)^2 = 275$$

$$3a_1 + 3d = 27 \rightarrow 3a_1 = 27 - 3d \rightarrow a_1 = \frac{27-3d}{3} = 9 - d$$

$$a_1^2 + a_1^2 + 2a_1d + d^2 + a_1^2 + 4a_1d + 4d^2 = 275$$

$$3a_1^2 + 6a_1d + 5d^2 = 275$$

$$3(9 - d)^2 + 6d(9 - d) + 5d^2 = 275$$

$$3(81 - 18d + d^2) + 54d - 6d^2 + 5d^2 = 275$$

$$243 - 54d + 3d^2 + 54d - 6d^2 + 5d^2 = 275$$

$$243 + 2d^2 = 275$$

$$2d^2 = 32 \rightarrow d^2 = 16$$

$$d_1 = 4 \quad \vee \quad d_2 = -4$$

$$a_n = a_1 + (n - 1)d$$

$$a_1 = 9 - d \rightarrow a_1 = 5$$

$$a_n = 5 + (n - 1) \cdot 4$$

$$a_2 = 5 + (2 - 1) \cdot 4 = 9$$

$$a_3 = 5 + 8 = 13$$

$$a_4 = 17$$

$$a_5 = 21$$



$$(a_1, a_2, a_3, a_4, a_5) = (5, 9, 13, 17, 21)$$