

Diskretna matematika

Rješenja zadataka za vježbu - treći ciklus 2009/2010

1.a) $x^7 + x^6 + x^5 + x^4 + x^2$

1.b) $x^6 + x^5 + x^2 + x$

2.a) $61x^3 + CAx^2 + 87x + 37$

2.b) $65x^3 + 6Ex^2 + C4x + FE$

3. $y = 27369, \quad d = 61073$

4. $n = 173 \cdot 179, \quad d = 1801,$

$y = 5186, 9388, 150, 22514 = \text{“DRU GIZ ADA TAK”}$

5. $m = \sqrt[3]{45499293} = 357$

6. $\frac{e}{n} = [0, 1, 1, 2, 2, 1, 7, 5, 1, 1, 2, \dots], \quad d = 17,$

7.) $x \equiv \pm 14 \pmod{47}, \quad x \equiv \pm 13 \pmod{73}$

$x \in \{1330, 1725, 1988, 2383\} \Rightarrow x = 2383$

8. $K = 77901$

9.a $e_K(x, k) = (1664, 1241)$

9.b $d_K(y_1, y_2) = 108$

10. $a^{-1} \pmod{p} = 332, \quad z = 332 \cdot 1021 \pmod{449} = 426,$

$426 = 223 + 119 + 55 + 27 + 2, \quad (x_1, x_2, x_3, x_4, x_5, x_6, x_7) = (1, 0, 0, 1, 1, 1, 1)$

11. $a^{-1} \pmod{p} = 403, \quad z = 403 \cdot 1607 \pmod{853} = 194,$

$194 = 109 + 53 + 27 + 5, \quad (x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8) = (0, 1, 0, 1, 1, 1, 0, 0)$