KVADRAT DVOČLENIKA IN TRIČLENIKA

KVADRAT VSOTE IN RAZLIKE

$(a+b)^2 = a^2+2ab+b^2$
$(a-b)^2 = a^2-2ab+b^2$

$(-a+b)^2 = a^2-2ab+b^2$
$(-a-b)^2 = a^2+2ab+b^2$

KVADRAT TRIČLENIKA

$(a+b+c)^2 = a^2+b^2+c^2+2ab+2ac+2bc$

1. $(x+5)^2 = x^2 + 2\cdot x\cdot 5 + 5^2 = \underline{\underline{x^2+10x+25}}$
   $a^2 + 2ab + b^2$
   a b

2. $(x+1)^2 = x^2 + 2\cdot x\cdot 1 + 1^2 = \underline{\underline{x^2+2x+1}}$

3. $(3+x)^2 = 3^2 + 2\cdot 3\cdot x + x^2 = \underline{\underline{9+6x+x^2}}$

4. $(x-8)^2 = x^2 - 2\cdot x\cdot 8 + 8^2 = \underline{\underline{x^2-16x+64}}$
   $a^2 - 2ab + b^2$
   a b

5. $(x-y)^2 = \underline{\underline{x^2 - 2xy + y^2}}$

znamzasi

6. $(9-x)^2 = 9^2 - 2\cdot 9x + x^2 = \underline{\underline{81-18x+x^2}}$

$(a+b)^2 = a^2+2ab+b^2$
$(a-b)^2 = a^2-2ab+b^2$

7. $(x-11)^2 = x^2 - 2x\cdot 11 + 11^2 = \underline{\underline{x^2-22x+121}}$

8. $(2-x)^2 = 2^2 - 2\cdot 2x + x^2 = \underline{\underline{4-4x+x^2}}$

9. $(-x-4)^2 = x^2 + 2x\cdot 4 + 4^2 = \underline{\underline{x^2+8x+16}}$

$a^2+2ab+b^2$

a b

$(-a-b)^2 = a^2+2ab+b^2$

10. $(-x+6)^2 = (6-x)^2 = 6^2 - 2\cdot 6x + x^2 = \underline{\underline{36-12x+x^2}}$

OBRNEŠ

11. $(-13+x)^2 = (x-13)^2 = x^2 + 2\cdot x\cdot 13 + 13^2 = \underline{\underline{x^2+26x+169}}$

12. $(-1-x)^2 = 1^2 + 2\cdot 1\cdot x + x^2 = \underline{\underline{1+2x+x^2}}$

13. $(-x+4)^2 = (4-x)^2 = 4^2 - 2\cdot 4x + x^2 = \underline{\underline{16-8x+x^2}}$

14. $(-x-7)^2 = x^2 + 2\cdot x\cdot 7 + 7^2 = \underline{\underline{x^2+14x+49}}$

15. $(2x+3)^2 = (2x)^2 + 2\cdot 2x\cdot 3 + 3^2 = \underline{\underline{4x^2+12x+9}}$

a b

daš v oklepaj in oba kvadriraš

16. $(4x-5)^2 = (4x)^2 - 2\cdot 4x\cdot 5 + 5^2 = \underline{\underline{16x^2-40x+25}}$

17. $(6-5x)^2 = 6^2 - 2\cdot 6\cdot 5x + (5x)^2 = \underline{\underline{36-60x+25x^2}}$

b

18. $(1-8x)^2 = 1^2 - 2\cdot 1\cdot 8x + (8x)^2 = \underline{1-16x+64x^2}$

19. $(-1+3x)^2 = (3x-1)^2 = (3x)^2 - 2\cdot 3x\cdot 1 + 1^2 = \underline{9x^2-6x+1}$

20. $(2x+3y)^2 = (2x)^2 + 2\cdot 2x\cdot 3y + (3y)^2 = \underline{4x^2+12xy+9y^2}$
(a = $2x$, b = $3y$)

znamzasi

21. $(4x-7y)^2 = (4x)^2 - 2\cdot 4x\cdot 7y + (7y)^2 = \underline{16x^2-56xy+49y^2}$

22. $(-x-3y)^2 = x^2 + 2x\cdot 3y + (3y)^2 = \underline{x^2+6xy+9y^2}$
2 MINUSA → VSI POZITIVNI

23. $(-5x+2y)^2 = (2y-5x)^2 = (2y)^2 - 2\cdot 2y\cdot 5x + (5x)^2 = \underline{4y^2-20xy+25x^2}$

24. $(-10x-11y)^2 = (10x)^2 + 2\cdot 10x\cdot 11y + (11y)^2 = \underline{100x^2+220xy+121y^2}$

25. $(x^3-1)^2 = (x^3)^2 - 2x^3\cdot 1 + 1^2 = \underline{x^6-2x^3+1}$

$(x^3)^2 = x^{3\cdot 2} = x^6$

$(a^m)^n = a^{m\cdot n}$
$a^m \cdot a^n = a^{m+n}$

$(x^4)^2 = x^{4\cdot 2} = x^8$
$x^4 \cdot x^2 = x^{4+2} = x^6$

26. $(x^2+y^2)^2 = (x^2)^2 + 2x^2y^2 + (y^2)^2 = \underline{x^4+2x^2y^2+y^4}$

27. $(3x^7+5)^2 = (3x^7)^2 + 2\cdot 3x^7\cdot 5 + 5^2 = \underline{9x^{14}+30x^7+25}$

28. $(x^5-6y^2)^2 = (x^5)^2 - 2\cdot x^5\cdot 6y^2 + (6y^2)^2 = \underline{x^{10}-12x^5y+36y^4}$

29. $(2x^2y-4y)^2 = (2x^2y)^2 - 2\cdot 2x^2y\cdot 4y + (4y)^2 = \underline{4x^4y^2-16x^2y^2+16y^2}$

$y\cdot y = y^1\cdot y^1 = y^2$

30. $(-6xy-z)^2 = (6xy)^2 + 2\cdot 6xy\cdot z + z^2 = \underline{\underline{36x^2y^2 + 12xyz + z^2}}$

31. $(-5x^2y - 4xy^3)^2 = (5x^2y)^2 + 2\cdot 5x^2y\cdot 4xy^3 + (4xy^3)^2 =$

$x^2\cdot x = x^3 \qquad y\cdot y^3 = y^1\cdot y^3 = y^4$

$= \underline{\underline{25x^4y^2 + 40x^3y^4 + 16x^2y^6}}$

32. $(x^3 - 5x^2)^2 = (x^3)^2 - 2x^3\cdot 5x^2 + (5x^2)^2 = \underline{\underline{x^6 - 10x^5 + 25x^4}}$

33. $(3x^3y^7 - 2x^9y^2)^2 = (3x^3y^7)^2 - 2\cdot 3x^3y^7\cdot 2x^9y^2 + (2x^9y^2)^2 =$

$= \underline{\underline{9x^6y^{14} - 12x^{12}y^9 + 4x^{18}y^4}}$

34. $(5x^2yz - 3x^2)^2 = (5x^2yz)^2 - 2\cdot 5x^2yz\cdot 3x^2 + (3x^2)^2 =$

$= \underline{\underline{25x^4y^2z^2 - 30x^4yz + 9x^4}}$

35. $(x+2y+z)^2 =$

$a \quad b \quad c$

$(a+b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2ac + 2bc$

$= x^2 + (2y)^2 + z^2 + 2\cdot x\cdot 2y + 2\cdot x\cdot z + 2\cdot 2y\cdot z = \underline{\underline{x^2 + 4y^2 + z^2 + 4xy + 2xz + 4yz}}$

36. $(3x-2y+4z)^2 = (3x)^2 + (-2y)^2 + (4z)^2 + 2\cdot 3x\cdot(-2y) + 2\cdot 3x\cdot 4z + 2\cdot(-2y)\cdot 4z =$

upoštevaš predznake

$= \underline{\underline{9x^2 + 4y^2 + 16z^2 - 12xy + 24xz - 16yz}}$

37. $(-x+3y-6z)^2 = (-x)^2 + (3y)^2 + (-6z)^2 + 2(-x)\cdot 3y + 2(-x)(-6z) + 2\cdot 3y(-6z) =$

$= \underline{\underline{x^2 + 9y^2 + 36z^2 - 6xy + 12xz - 36yz}}$

38. $(x^2-5y^2+7z^3)^2=$

$=(x^2)^2+(-5y^2)^2+(7z^3)^2+2x^2\cdot(-5y^2)+2x^2\cdot 7z^3+2\cdot(-5y^2)\cdot 7z^3=$

$=\underline{\underline{x^4+25y^4+49z^6-10x^2y^2+14x^2z^3-70y^2z^3}}$

39. $(-x-4y-5z)^2=$

$=(-x)^2+(-4y)^2+(-5z)^2+2(-x)(-4y)+2(-x)(-5z)+2(-4y)(-5z)=$

$=\underline{\underline{x^2+16y^2+25z^2+8xy+10xz+40yz}}$

40. $(xy+xz+yz)^2=$

$=(xy)^2+(xz)^2+(yz)^2+2xy\cdot xz+2xy\cdot yz+2xzyz=$

$=\underline{\underline{x^2y^2+x^2z^2+y^2z^2+2x^2yz+2xy^2z+2xyz^2}}$

Še več rešenih primerov najdeš v knjigi Izrazi