34. Koristeći se formulama za: kvadrat zbroja binoma i kvadrat razlike binoma

$$(A+B)^2 = A^2 + 2AB + B^2 \qquad (A-B)^2 = A^2 - 2AB + B^2$$

izračunaj:

1) $(x+y)^2$ 2) $(y+x)^2$ 3) $(x-y)^2$ 4) $(y-x)^2$

5) $(x+3)^2$ 6) $(x-5)^2$ 7) $(2-x)^2$ 8) $(2+x)^2$

9) $(x-1)^2$ 10) $(x-4)^2$ 11) $(a-2)^2$ 12) $(3-b)^2$

13) $(y-5)^2$ 14) $(x+6)^2$ 15) $(7-x)^2$ 16) $(8+y)^2$

17) $(2+z)^2$ 18) $(z-2)^2$ 19) $(x+5y)^2$ 20) $(5x-y)^2$

21) $(7x+y)^2$ 22) $(x-3y)^2$ 23) $(3x+2)^2$ 24) $(2x+5)^2$

25) $(2a-5b)^2$ 26) $(2x+3y)^2$ 27) $(5x+2y)^2$ 28) $(3x+4y)^2$

29) $(3x-4y)^2$ 30) $(5a+7b)^2$ 31) $(3m+n)^2$ 32) $(2m-5n)^2$

33) $(0,2x+3)^2$ 34) $(1,2x+0,3)^2$ 35) $(0,5x-2y)^2$ 36) $(0,2m+0,3n)^2$

37) $\left(x+\frac{1}{2}\right)^2$ 38) $\left(\frac{3}{2}x+1\right)^2$ 39) $\left(\frac{3}{4}x+\frac{2}{3}y\right)^2$ 40) $\left(0,4x-\frac{5}{3}y\right)^2$

41) $\left(\frac{5}{2}x+0,2y\right)^2$ 42) $\left(4x-\frac{3}{2}y\right)^2$ 43) $\left(\frac{1}{2}x+\frac{2}{3}y^3\right)^2$ 44) $\left(\frac{2}{3}x^3-\frac{3}{4}y^4\right)^2$

45) $\left(1\frac{1}{2}x+y\right)^2$ 46) $\left(2\frac{2}{3}x-1\frac{1}{4}y\right)^2$ 47) $\left(3\frac{2}{3}x-0,5y\right)^2$ 48) $\left(\frac{1}{4}xz-\frac{3}{2}y\right)^2$

49) $\left(x^2+1\right)^2$ 50) $\left(x^2-2\right)^2$ 51) $\left(3-x^4\right)^2$ 52) $\left(3a^2-b^3\right)^2$

53) $\left(2a^3-b^2\right)^2$ 54) $\left(a^3-5b^2\right)^2$ 55) $\left(2x^3+3y^3\right)^2$ 56) $\left(3x^4+7y^5\right)^2$

57) $\left(2x^2y^3-3z^2\right)^2$ 58) $\left(2ab+3c\right)^2$ 59) $\left(a^2b+c^3\right)^2$ 60) $\left(2ab^2-3c^4\right)^2$

61) $\left(a^2b^3-c^2d^4\right)^2$ 62) $\left(a^2b^3-c^2\right)^2$ 63) $\left(a^3b-3c^4\right)^2$ 64) $\left(a^2b^3+4c^5\right)^2$

65) $\left(2a^4b^3-3a^2b^7\right)^2$ 66) $\left(4a^3b-5a^2b^3\right)^2$ 67) $\left(9a^4b^3-2a^2b^4\right)^2$ 68) $\left(\frac{1}{2}a^2b-\frac{2}{3}a^4b^3\right)^2$

69) $(5x-6y)^{-2}$ 70) $(x+4y)^{-2}$ 71) $(-x-3)^2$ 72) $(-x-2y)^2$

73) $(-2a-3b)^2$ 74) $(-x-4y)^2$ 75) $\left(-\frac{1}{2}x-4y^2\right)^2$ 76) $(-a+7b)^2$

77) $(-3x+y)^2$ 78) $\left(-5a^2b^3+2c^4\right)^2$ 79) $\left(-2x^2y^3+3z^4\right)^2$ 80) $\left(-2^m+2^n\right)^2$

81) $\left(2^m+3^n\right)^2$ 82) $\left(3^m-5^m\right)^2$ 83) $\left(2^m+2^n\right)^2$ 84) $\left(2^m+2^{m-1}\right)^2$

85) $\left(3^m-3^n\right)^2$ 86) $\left(2^{m+1}+2^{m-1}\right)^2$ 87) $\left(2^n+2^{1-n}\right)^2$ 88) $\left(2^{n+1}-2^{n-2}\right)^2$

89) $\left(a^n+a^{n+1}\right)^2$ 90) $\left(a^{n-1}-a^{n+1}\right)^2$ 91) $\left(2a^x-3b^x\right)^2$ 92) $\left(2a^x+3b^y\right)^2$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

To pravilo možemo pisati i ovako: $(I+II)^2 = I^2 + 2\cdot I\cdot II + II^2$ i $(I-II)^2 = I^2 - 2\cdot I\cdot II + II^2$

Sve o kvadratu binoma morali bi znati već iz 8. razreda ali ponovimo to još jednom.
Pogledajmo kako to radimo na dva primjera:

a) $(x+1)^2$ *b*) $(x-1)^2$

a) $(x+1)^2 = x^2 + 2\cdot x\cdot 1 + 1^2 = x^2 + 2x + 1$

objašnjenje:

$$(x+1)^2 = x^2 + 2\cdot x\cdot 1 + 1^2 = x^2 + 2x + 1$$
$$\uparrow\ \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$$
$$(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$$

ili
$$(x+1)^2 = x^2 + 2\cdot x\cdot 1 + 1^2 = x^2 + 2x + 1$$
$$\uparrow\ \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$$
$$(I+II)^2 = I^2 + 2\cdot I\cdot II + II^2$$

↓ ovo pravilo čitamo ovako:

Prvi plus drugi na kvadrat
jednako je prvi na kvadrat, plus dvostruki prvi puta drugi, plus drugi na kvadrat.

b) $(x-1)^2 = x^2 - 2\cdot x\cdot 1 + 1^2 = x^2 - 2x + 1$

objašnjenje:

$$(x-1)^2 = x^2 - 2\cdot x\cdot 1 + 1^2 = x^2 - 2x + 1$$
$$\uparrow\ \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$$
$$(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$$

ili
$$(x-1)^2 = x^2 - 2\cdot x\cdot 1 + 1^2 = x^2 - 2x + 1$$
$$\uparrow\ \uparrow \quad \uparrow \quad \uparrow \quad \uparrow$$
$$(I-II)^2 = I^2 - 2\cdot I\cdot II + II^2$$

1) $(x+y)^2 = x^2 + 2xy + y^2$

2) $(y+x)^2 = y^2 + 2\cdot y\cdot x + x^2 = x^2 + 2xy + y^2$

3) $(x-y)^2 = x^2 - 2xy + y^2$

4) $(y-x)^2 = y^2 - 2\cdot y\cdot x + x^2 = x^2 + 2xy + y^2$

5) $(x+3)^2 = x^2 + 2\cdot x\cdot 3 + 3^2 =$
$= x^2 + 6x + 9$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

To pravilo možemo pisati i ovako: $(I+II)^2 = I^2 + 2\cdot I\cdot II + II^2$ i $(I-II)^2 = I^2 - 2\cdot I\cdot II + II^2$

6) $(x-5)^2 = x^2 - 2\cdot x\cdot 5 + 5^2 =$

$= x^2 - 10x + 25$

7) $(2-x)^2 = 2^2 - 2\cdot 2\cdot x + x^2 =$

$= 4 - 4x + x^2$ $\rightarrow$ to možemo pisati i dalje: $= x^2 - 4x + 4$

8) $(2+x)^2 = 2^2 + 2\cdot 2\cdot x + x^2 =$

$= 4 + 4x + x^2$ $= x^2 + 4x + 4$ dobro je kako god napišete ...

9) $(x-1)^2 = x^2 - 2\cdot x\cdot 1 + 1^2 =$

$= x^2 - 2x + 1$

10) $(x-4)^2 = x^2 - 2\cdot x\cdot 4 + 4^2 =$

$= x^2 - 8x + 16$

11) $(a-2)^2 = a^2 - 2\cdot a\cdot 2 + 2^2 =$

$= a^2 - 4a + 4$

12) $(3-b)^2 = 3^2 - 2\cdot 3\cdot b + b^2 =$

$= 9 - 6b + b^2$

13) $(y-5)^2 = y^2 - 2\cdot y\cdot 5 + 5^2 =$

$= y^2 - 10y + 25$

14) $(x+6)^2 = x^2 + 2\cdot x\cdot 6 + 6^2 =$

$= x^2 + 12x + 36$

15) $(7-x)^2 = 7^2 - 2\cdot 7\cdot x + x^2 =$

$= 49 - 14x + x^2$

16) $(8+y)^2 = 8^2 + 2\cdot 8\cdot y + y^2 =$

$= 64 + 16y + y^2$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

To pravilo možemo pisati i ovako: $(I+II)^2 = I^2 + 2\cdot I\cdot II + II^2$ i $(I-II)^2 = I^2 - 2\cdot I\cdot II + II^2$

17) $(2+z)^2 = 2^2 + 2\cdot 2\cdot z + z^2 =$
$= 4 + 4z + z^2$

18) $(z-2)^2 = z^2 - 2\cdot z\cdot 2 + 2^2 =$
$= z^2 - 4z + 4$

19) $(x+5y)^2 = x^2 + 2\cdot x\cdot 5y + (5y)^2 =$
$= x^2 + 10xy + 5^2 y^2 =$
$= x^2 + 10xy + 25y^2$

Još jednom isti zadatak:

19) $(x+5y)^2 = x^2 + 2\cdot x\cdot 5y + (5y)^2 = x^2 + 10xy + 5^2 y^2 = x^2 + 10xy + 25y^2$

↕

Primjeni pravilo: $(ab)^n = a^n b^n$ u našem slučaju: $(5y)^2 = 5^2 y^2 = 25y^2$

↕ i ovdje

20) $(5x-y)^2 = (5x)^2 - 2\cdot 5x\cdot y + y^2 = 5^2 x^2 - 10xy + y^2 = 25x^2 - 10xy + y^2$

ili možemo pisati i ovako:

$(5x-y)^2 = (5x)^2 - 2\cdot 5x\cdot y + y^2 =$
$= 5^2 x^2 - 10xy + y^2 =$
$= 25x^2 - 10xy + y^2$

21) $(7x+y)^2 = (7x)^2 + 2\cdot 7x\cdot y + y^2 =$
$= 7^2 x^2 + 14xy + y^2 =$
$= 49x^2 + 14xy + y^2$

22) $(x-3y)^2 = x^2 - 2\cdot x\cdot 3y + (3y)^2 =$
$= x^2 - 6xy + 3^2 y^2 =$
$= x^2 - 6xy + 9y^2$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

To pravilo možemo pisati i ovako: $(I+II)^2 = I^2 + 2\cdot I\cdot II + II^2$ i $(I-II)^2 = I^2 - 2\cdot I\cdot II + II^2$

23) $(3x+2)^2 = (3x)^2 + 2\cdot 3x\cdot 2 + 2^2 =$
$= 3^2x^2 + 12x + 4 =$
$= 9x^2 + 12x + 4$

24) $(2x+5)^2 = (2x)^2 + 2\cdot 2x\cdot 5 + 5^2 =$
$= 2^2x^2 + 20x + 25 =$
$= 4x^2 + 20x + 25$

Sve ove zadatke možemo rješavati u jednom redu ali tada je teško pisati upute,
kada svaki korak pišem u novi red tada desno od zadatka ima mjesta za uputu.

25) $(2a-5b)^2 = (2a)^2 - 2\cdot 2a\cdot 5b + (5b)^2 = 2^2a^2 - 20ab + 5^2b^2 = 4a^2 - 20ab + 25b^2$

Još jednom isti zadatak: $(2a-5b)^2 = (2a)^2 - 2\cdot 2a\cdot 5b + (5b)^2 =$ Primjeni: $(ab)^n = a^nb^n$
$= 2^2a^2 - 20ab + 5^2b^2 =$
$= 4a^2 - 20ab + 25b^2$

26) $(2x+3y)^2 = (2x)^2 + 2\cdot 2x\cdot 3y + (3y)^2 =$
$= 2^2x^2 + 12xy + 3^2y^2 =$
$= 4x^2 + 12xy + 9y^2$

27) $(5x+2y)^2 = (5x)^2 + 2\cdot 5x\cdot 2y + (2y)^2 =$
$= 5^2x^2 + 20xy + 2^2y^2 =$
$= 25x^2 + 20xy + 4y^2$

28) $(3x+4y)^2 = (3x)^2 + 2\cdot 3x\cdot 4y + (4y)^2 =$
$= 3^2x^2 + 24xy + 4^2y^2 =$
$= 9x^2 + 24xy + 16y^2$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

To pravilo možemo pisati i ovako: $(I+II)^2 = I^2 + 2\cdot I\cdot II + II^2$ i $(I-II)^2 = I^2 - 2\cdot I\cdot II + II^2$

29) $(3x-4y)^2 = (3x)^2 - 2\cdot 3x\cdot 4y + (4y)^2 =$
$= 3^2x^2 - 24xy + 4^2y^2 =$
$= 9x^2 - 24xy + 16y^2$

30) $(5a+7b)^2 = (5a)^2 + 2\cdot 5a\cdot 7b + (7b)^2 =$
$= 5^2a^2 + 70ab + 7^2b^2 =$
$= 25a^2 + 70ab + 49b^2$

31) $(3m+n)^2 = (3m)^2 + 2\cdot 3m\cdot n + n^2 =$
$= 3^2m^2 + 6mn + n^2 =$
$= 9m^2 + 6mn + n^2$

32) $(2m-5n)^2 = (2m)^2 - 2\cdot 2m\cdot 5n + (5n)^2 =$
$= 2^2m^2 - 20mn + 5^2n^2 =$
$= 4m^2 - 20mn + 25n^2$

33) $(0,2x+3)^2 = (0,2x)^2 + 2\cdot 0,2\cdot x\cdot 3 + 3^2 = 0,2^2x^2 + 1,2x + 9 = 0,04x^2 + 1,2x + 9$
$\downarrow \qquad \downarrow$
$2\cdot 0,2\cdot 3 = 1,2 \qquad 0,2^2 = 0,2\cdot 0,2 = 0,04$

Još jednom taj isti zadatak:

33) $(0,2x+3)^2 = (0,2x)^2 + 2\cdot 0,2\cdot x\cdot 3 + 3^2 =$
$= 0,2^2x^2 + 1,2x + 9 =$
$= 0,04x^2 + 1,2x + 9$

Uputa:
$\rightarrow \mid 2\cdot 0,2\cdot 3 = 1,2$
$\rightarrow \quad 0,2^2 = 0,2\cdot 0,2 = 0,04$

34) $(1,2x+0,3)^2 = (1,2x)^2 + 2\cdot 1,2x\cdot 0,3 + 0,3^2 =$ $\rightarrow \mid 2\cdot 1,2\cdot 0,3 = 0,72$
$= 1,2^2x^2 + 2\cdot 1,2\cdot 0,3\cdot x + 0,09 =$ $\rightarrow \quad 1,2^2 = 1,2\cdot 1,2 = 1,44$
$= 1,44x^2 + 0,72x + 0,09$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

To pravilo možemo pisati i ovako: $(I+II)^2 = I^2 + 2\cdot I\cdot II + II^2$ i $(I-II)^2 = I^2 - 2\cdot I\cdot II + II^2$

35) $(0,5x-2y)^2 = (0,5x)^2 - 2\cdot 0,5\cdot x\cdot 2\cdot y + (2y)^2 =$

$= 0,5^2 x^2 - 2x + 2^2 y^2 =$

$= 0,25x^2 - 2x + 4y^2$

36) $(0,2m+0,3n)^2 = (0,2m)^2 + 2\cdot 0,2\cdot m\cdot 0,3\cdot n + (0,3n)^2 =$

$= 0,2^2 m^2 + 0,12mn + 0,3^2 n^2 =$

$= 0,04m^2 + 0,12mn + 0,09n^2$

37) $\left(x+\frac{1}{2}\right)^2 = x^2 + 2\cdot x\cdot\frac{1}{2} + \left(\frac{1}{2}\right)^2 =$

$= x^2 + 2\cdot\frac{1}{2}\cdot x + \frac{1^2}{2^2} =$

$= x^2 + x + \frac{1}{4}$

38) $\left(\frac{3}{2}x+1\right)^2 = \left(\frac{3}{2}x\right)^2 + 2\cdot\frac{3}{2}\cdot x\cdot 1 + 1^2 =$

$= \frac{3^2}{2^2}x^2 + 3x + 1 =$

$= \frac{9}{4}x^2 + 3x + 1$

39) $\left(\frac{3}{4}x+\frac{2}{3}y\right)^2 = \left(\frac{3}{4}x\right)^2 + 2\cdot\frac{3}{4}\cdot x\cdot\frac{2}{3}\cdot y + \left(\frac{2}{3}y\right)^2 =$

$= \frac{3^2}{4^2}x^2 + 2\cdot\frac{3}{4}\cdot\frac{2}{3}\cdot x\cdot y + \frac{2^2}{3^2}y^2 =$ $\rightarrow$ drugi član $\cdot\ 2\cdot\frac{3}{4}\cdot\frac{2}{3}xy = \frac{2\cdot 3\cdot 2}{4\cdot 3}xy = 1xy$

$= \frac{9}{16}x^2 + xy + \frac{4}{9}y^2$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

40) $\left(0,4x - \frac{5}{3}y\right)^2 = (0,4x)^2 - 2\cdot 0,4\cdot x\cdot\frac{5}{3}\cdot y + \left(\frac{5}{3}y\right)^2 =$

$= 0,4^2 x^2 - 2\cdot\frac{4}{10}\cdot\frac{5}{3}\cdot x\cdot y + \frac{5^2}{3^2}y^2 =$

$= 0,16x^2 - \frac{4}{3}xy + \frac{25}{9}y^2 =$ Možemo rješenje ostaviti u ovom obliku

$= \frac{16}{100}x^2 - \frac{4}{3}xy + \frac{25}{9}y^2 =$ ili decimalni broj $0,16 = \frac{16}{100} = \frac{4}{25}$

$= \frac{4}{25}x^2 - \frac{4}{3}xy + \frac{25}{9}y^2$ pretvoriti u razlomak....

41) $\left(\frac{5}{2}x + 0,2y\right)^2 = \left(\frac{5}{2}x\right)^2 + 2\cdot\frac{5}{2}\cdot x\cdot 0,2\cdot y + = (0,2y)^2 =$ $\rightarrow 2\cdot\frac{5}{2}\cdot 0,2 = 5\cdot 0,2 = 1$

$= \frac{5^2}{2^2}x^2 + 1\cdot xy + 0,2^2 y^2 =$

$= \frac{25}{4}x^2 + xy + 0,04y^2$

ili taj zadatak na drugi način: $\left(\frac{5}{2}x + 0,2y\right)^2 = \left(\frac{5}{2}x\right)^2 + 2\cdot\frac{5}{2}\cdot x\cdot\frac{2}{10}\cdot y + = \left(\frac{2}{10}y\right)^2 =$

$= \frac{5^2}{2^2}x^2 + 2\cdot\frac{5}{2}\cdot\frac{1}{5}\cdot x\cdot y + \left(\frac{1}{5}y\right)^2 =$

$= \frac{25}{4}x^2 + xy + \frac{1}{25}y^2$

Vidimo da su obadva rješenja ista jer je: $0,04 = \frac{4}{100} = \frac{1}{25}$ pa sada kako je kome lakše računat obadva načina su ispravna...

42) $\left(4x - \frac{3}{2}y\right)^2 = (4x)^2 - 2\cdot 4x\cdot\frac{3}{2}y + \left(\frac{3}{2}y\right)^2 =$

$= 4^2 x^2 - 2\cdot 4\cdot\frac{3}{2}\cdot x\cdot y + \frac{3^2}{2^2}y^2 =$

$= 16x^2 - 12xy + \frac{3^2}{2^2}y^2 =$

$= 16x^2 - 12xy + \frac{9}{4}y^2$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

43) $\left(\frac{1}{2}x+\frac{2}{3}y^3\right)^2 = \left(\frac{1}{2}x\right)^2 + 2\cdot\frac{1}{2}\cdot x\cdot\frac{2}{3}\cdot y^3 + \left(\frac{2}{3}y^3\right)^2 =$

$= \frac{1^2}{2^2}x^2 + \frac{2}{3}xy^3 + \frac{2^2}{3^2}\left(y^3\right)^2 =$ $\rightarrow \left(y^3\right)^2 = y^{3\cdot 2} = y^6$

$= \frac{1}{4}x^2 + \frac{2}{3}xy^3 + \frac{4}{9}y^6$

44) $\left(\frac{2}{3}x^3-\frac{3}{4}y^4\right)^2 = \left(\frac{2}{3}x^3\right)^2 - 2\cdot\frac{2}{3}x^3\cdot\frac{3}{4}y^4 + \left(\frac{3}{4}y^4\right)^2 =$

$= \frac{2^2}{3^2}\left(x^3\right)^2 - 2\cdot\frac{2}{3}\cdot\frac{3}{4}\cdot x^3\cdot y^4 + \frac{3^2}{4^2}\left(y^4\right)^2 =$ $\rightarrow 2\cdot\frac{2}{3}\cdot\frac{3}{4} = \frac{2\cdot 2\cdot 3}{3\cdot 4} = 1$

$= \frac{4}{9}x^{3\cdot 2} - 1\cdot x^3y^4 + \frac{9}{16}y^{4\cdot 2} =$

$= \frac{4}{9}x^6 - x^3y^4 + \frac{9}{16}y^8$

45) $\left(1\frac{1}{2}x+y\right)^2 =$ Odmah treba mješoviti broj: $1\frac{1}{2}$ pretvoriti u razlomak pa tek tada kvadrirati:

$\left(1\frac{1}{2}x+y\right)^2 = \left(\frac{3}{2}x+y\right)^2 = \left(\frac{3}{2}x\right)^2 + 2\cdot\frac{3}{2}x\cdot y + y^2 =$ $\rightarrow 1\frac{1}{2} = \frac{1.2+1}{2} = \frac{3}{2}$

$= \frac{3^2}{2^2}x^2 + xy + y^2$

46) $\left(2\frac{2}{3}x-1\frac{1}{4}y\right)^2 = \left(\frac{2\cdot 3+2}{3}x-\frac{1\cdot 4+1}{4}y\right)^2 =$ Odmah treba mješoviti broj pretvoriti u razlomak

$= \left(\frac{8}{3}x-\frac{5}{4}y\right)^2 =$ $\rightarrow$ pa tek tada kvadrirati

$= \left(\frac{8}{3}x\right)^2 - 2\cdot\frac{8}{3}x\cdot\frac{5}{4}y + \left(\frac{5}{4}y\right)^2 =$

$= \frac{8^2}{3^2}x^2 - \frac{8\cdot 5}{3\cdot 2}\cdot x\cdot y + \frac{5^2}{4^2}y^2 =$

$= \frac{64}{9}x^2 - \frac{40}{6}xy + \frac{25}{16}y^2$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

47) $\left(3\frac{2}{3}x - 0{,}5y\right)^2 = \left(\frac{3\cdot 3+2}{3}x - \frac{5}{10}y\right)^2 = \left(\frac{11}{3}x - \frac{1}{2}y\right)^2 =$

$$= \left(\frac{11}{3}x\right)^2 - 2\cdot\frac{11}{3}\cdot x\cdot\frac{1}{2}\cdot y + \left(\frac{1}{2}y\right)^2 =$$

$$= \frac{11^2}{3^2}x^2 - \frac{11}{3}xy + \frac{1^2}{2^2}y^2 =$$

$$= \frac{121}{9}x^2 - \frac{11}{3}xy + \frac{1}{4}y^2$$

48) $\left(\frac{1}{4}xz - \frac{3}{2}y\right)^2 = \left(\frac{1}{4}xz\right)^2 - 2\cdot\frac{1}{4}\cdot x\cdot z\cdot\frac{3}{2}\cdot y + \left(\frac{3}{2}y\right)^2 =$

$$= \frac{1^2}{4^2}x^2y^2 - 2\cdot\frac{1}{4}\cdot\frac{3}{2}\cdot x\cdot z\cdot y + \frac{3^2}{2^2}y^2 =$$

$$= \frac{1}{16}x^2y^2 - \frac{3}{4}xzy + \frac{9}{4}y^2$$

49) $\left(x^2+1\right)^2 = \left(x^2\right)^2 + 2\cdot x^2\cdot 1 + 1^2 =$ $\rightarrow \left(x^2\right)^2 = x^{2\cdot 2} = x^4$ po pravilu: $\left(a^n\right)^m = a^{n\cdot m}$

$$= x^{2\cdot 2} + 2x^2 + 1 =$$

$$= x^4 + 2x^2 + 1$$

50) $\left(x^2-2\right)^2 = \left(x^2\right)^2 - 2\cdot x^2\cdot 2 + 2^2 =$

$$= x^{2\cdot 2} - 4x^2 + 4 =$$

$$= x^4 - 4x^2 + 4$$

51) $\left(3-x^4\right)^2 = 3^2 - 2\cdot 3\cdot x^4 + \left(x^4\right)^2 =$

$$= 9 - 6x^4 + x^{4\cdot 2} =$$

$$= 9 - 6x^4 + x^8$$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

52) $\left(3a^2 - b^3\right)^2 = \left(3a^2\right)^2 - 2\cdot 3\cdot a^2\cdot b^3 + \left(b^3\right)^2 =$

$= 3^2\left(a^2\right)^2 - 6a^2b^3 + b^{3\cdot 2} =$

$= 9a^{2\cdot 2} - 6a^2b^3 + b^6 = 9a^4 - 6a^2b^3 + b^6$

53) $\left(2a^3 - b^2\right)^2 = \left(2a^3\right)^2 - 2\cdot 2\cdot a^3\cdot b^2 + \left(b^2\right)^2 =$

$= 2^2\left(a^3\right)^2 - 4a^3b^2 + b^{2\cdot 2} =$

$= 4a^{3\cdot 2} - 4a^3b^2 + b^4 =$

$= 4a^6 - 4a^3b^2 + b^4$

54) $\left(a^3 - 5b^2\right)^2 = \left(a^3\right)^2 - 2\cdot a^3\cdot 5\cdot b^2 + \left(5b^2\right)^2 =$

$= a^{3\cdot 2} - 10a^3b^2 + 5^2\left(b^2\right)^2 =$

$= a^6 - 10a^3b^2 + 25b^4$

55) $\left(2x^3 + 3y^3\right)^2 = \left(2x^3\right)^2 + 2\cdot 2\cdot x^3\cdot 3\cdot y^3 + \left(3y^3\right)^2 =$

$= 2^2\left(x^3\right)^2 + 12x^3y^3 + 3^2\left(y^3\right)^2 =$

$= 4x^{3\cdot 2} + 12x^3y^3 + 9y^{3\cdot 2} =$

$= 4x^6 + 12x^3y^3 + 9y^6$

56) $\left(3x^4 + 7y^5\right)^2 = \left(3x^4\right)^2 + 2\cdot 3\cdot x^4\cdot 7\cdot y^5 + \left(7y^5\right)^2 =$

$= 3^2\left(x^4\right)^2 + 42x^4y^5 + 7^2\left(y^5\right)^2 =$

$= 9x^{4\cdot 2} + 42x^4y^5 + 49y^{5\cdot 2} =$

$= 9x^8 + 42x^4y^5 + 49y^{10}$

57) $\left(2x^2y^3 - 3z^2\right)^2 = \left(2x^2y^3\right)^2 - 2\cdot 2\cdot x^2\cdot y^3\cdot 3\cdot z^2 + \left(3z^2\right)^2 =$

$= 2^2\left(x^2\right)^2\left(y^3\right)^2 - 4\cdot 3\cdot x^2\cdot y^3\cdot z^2 + 3^2\left(z^2\right)^2 =$

$= 4x^{2\cdot 2}y^{3\cdot 2} - 12x^2y^3z^2 + 9z^{2\cdot 2} =$

$= 4x^4y^6 - 12x^2y^3z^2 + 9z^4$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

58) $(2ab+3c)^2 = (2ab)^2 + 2\cdot 2\cdot a\cdot b\cdot 3\cdot c + (3c)^2 =$
$= 2^2a^2b^2 + 12abc + 3^2c^2 =$
$= 4a^2b^2 + 12abc + 9c^2$

59) $(a^2b+c^3)^2 = (a^2b)^2 + 2\cdot a^2\cdot b\cdot c^3 + (c^3)^2 =$
$= (a^2)^2\cdot b^2 + 2a^2bc^3 + c^2 =$
$= a^4b^2 + 2a^2bc^3 + c^2$

60) $(2ab^2-3c^4)^2 = (2ab^2)^2 - 2\cdot 2\cdot a\cdot b^2\cdot 3\cdot c^4 + (3c^4)^2 =$
$= 2^2a^2(b^2)^2 - 12ab^2c^4 + 3^2(c^4)^2 =$
$= 4a^2b^{2\cdot 2} - 12ab^2c^4 + 9c^{4\cdot 2} =$
$= 4a^2b^4 - 12ab^2c^4 + 9c^8$

61) $(a^2b^3-c^2d^4)^2 = (a^2b^3)^2 - 2\cdot a^2\cdot b^3\cdot c^2\cdot d^4 + (c^2d^4)^2 =$
$= (a^2)^2\cdot(b^3)^2 - 2a^2b^3c^2d^4 + (c^2)^2\cdot(d^4)^2 =$
$= a^{2\cdot 2}b^{3\cdot 2} - 2a^2b^3c^2d^4 + c^{2\cdot 2}d^{4\cdot 2} =$
$= a^4b^6 - 2a^2b^3c^2d^4 + c^4d^8$

62) $(a^2b^3-c^2)^2 = (a^2b^3)^2 - 2\cdot a^2\cdot b^3\cdot c^3 + (c^2)^2 =$
$= (a^2)^2\cdot(b^3)^2 - 2a^2b^3c^3 + c^{2\cdot 2} =$
$= a^{2\cdot 2}b^{3\cdot 2} - 2a^2b^3c^3 + c^4 =$
$= a^4b^6 - 2a^2b^3c^3 + c^4$

63) $(a^3b-3c^4)^2 = (a^3b)^2 - 2\cdot a^3b\cdot 3\cdot c^4 + (3c^4)^2 =$
$= (a^3)^2\cdot b^2 - 6a^3bc^4 + 3^2(c^4)^2 =$
$= a^{3\cdot 2}b^2 - 6a^3bc^4 + 9c^{4\cdot 2} =$
$= a^6b^2 - 6a^3bc^4 + 9c^8$

64) $(a^2b^3+4c^5)^2 = (a^2b^3)^2 + 2\cdot a^2\cdot b^3\cdot 4\cdot c^5 + (4c^5)^2 =$
$= (a^2)^2\cdot(b^3)^2 + 8a^2b^3c^5 + 4^2(c^5)^2 =$
$= a^{2\cdot 2}b^{3\cdot 2} + 8a^2b^3c^5 + 16c^{5\cdot 2} =$
$= a^4b^6 + 8a^2b^3c^5 + 16c^{10}$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

65) $\left(2a^4b^3 - 3a^2b^7\right)^2 = \left(2a^4b^3\right)^2 - 2\cdot 2\cdot a^4\cdot b^3\cdot 3\cdot a^2\cdot b^7 + \left(3a^2b^7\right)^2 =$

$= 2^2\left(a^4\right)^2\cdot\left(b^3\right)^2 - 12\cdot a^4\cdot a^2\cdot b^3\cdot b^7 + 3^2\left(a^2\right)^2\cdot\left(b^7\right)^2 =$

$= 4a^{4\cdot 2}b^{3\cdot 2} - 12\cdot a^{4+2}\cdot b^{3+7} + 9a^{2\cdot 2}b^{7\cdot 2} =$

$= 4a^8b^6 - 12a^6b^{10} + 9a^4b^9$

66) $\left(4a^3b - 5a^2b^3\right)^2 = \left(4a^3b\right)^2 - 2\cdot 4\cdot a^3\cdot b\cdot 5\cdot a^2\cdot b^3 + \left(5a^2b^3\right)^2 =$

$= 4^2\left(a^3\right)^2\cdot b^2 - 2\cdot 4\cdot 5\cdot a^3\cdot a^2\cdot b^1\cdot b^3 + 5^2\left(a^2\right)^2\cdot\left(b^3\right)^2 =$

$= 16a^{3\cdot 2}b^2 - 40a^{3+2}\cdot b^{1+3} + 25a^{2\cdot 2}b^{3\cdot 2} =$

$= 16a^6b^2 - 40a^5b^4 + 25a^4b^6$

67) $\left(9a^4b^3 - 2a^2b^4\right)^2 = \left(9a^4b^3\right)^2 - 2\cdot 9\cdot a^4\cdot b^3\cdot 2\cdot a^2\cdot b^4 + \left(2a^2b^4\right)^2 =$

$= 9^2\left(a^4\right)^2\left(b^3\right)^2 - 2\cdot 9\cdot 2\cdot a^4\cdot a^2\cdot b^3\cdot b^4 + 2^2\left(a^2\right)^2\left(b^4\right)^2 =$

$= 81a^{4\cdot 2}b^{3\cdot 2} - 36\cdot a^{4+2}\cdot b^{3+4} + 4a^{2\cdot 2}b^{4\cdot 2} =$

$= 81a^8b^6 - 36a^6b^7 + 4a^4b^8$

68) $\left(\frac{1}{2}a^2b - \frac{2}{3}a^4b^3\right)^2 = \left(\frac{1}{2}a^2b\right)^2 - 2\cdot\frac{1}{2}\cdot a^2\cdot b\cdot\frac{2}{3}\cdot a^4\cdot b^3 + \left(\frac{2}{3}a^4b^3\right)^2 =$

$= \frac{1^2}{2^2}\cdot\left(a^2\right)^2\cdot b^2 - 2\cdot\frac{1}{2}\cdot\frac{2}{3}\cdot a^2\cdot a^4\cdot b^1\cdot b^3 + \frac{2^2}{3^2}\left(a^4\right)^2\cdot\left(b^3\right)^2 =$

$= \frac{1}{4}a^{2\cdot 2}b^2 - \frac{2}{3}\cdot a^{2+4}\cdot b^{1+3} + \frac{4}{9}a^{4\cdot 2}b^{3\cdot 2} =$

$= \frac{1}{4}a^4b^2 - \frac{2}{3}a^6b^4 + \frac{4}{9}a^6b^5$

69) $(5x-6y)^{-2} = (5x-6y)^{2\cdot(-1)} = \left((5x-6y)^2\right)^{-1} = \frac{1}{(5x-6y)^2} =$

$= \frac{1}{(5x)^2 - 2\cdot 5\cdot x\cdot 6\cdot y + (6y)^2} = \frac{1}{5^2x^2 - 30xy + 6^2y^2} = \frac{1}{25x^2 - 30xy + 36y^2}$

70) $(x+4y)^{-2} = (x+4y)^{2\cdot(-1)} = \left((x+4y)^2\right)^{-1} = \frac{1}{(x+4y)^2} =$

$= \frac{1}{x^2 + 2\cdot x\cdot 4\cdot y + (4y)^2} = \frac{1}{x^2 + 8xy + 4^2y^2} = \frac{1}{x^2 + 8xy + 16y^2}$

34. 71)

U formulama piše: $(-a-b)^2=(a+b)^2$

Pokažimo zašto je to tako: $(-a-b)^2=(-1\cdot(a+b))^2=(-1)^2\cdot(a+b)^2=1\cdot(a+b)^2=(a+b)^2$

Objašnjenje: $(-a-b)^2=(-1\cdot(a+b))^2=$ Izlučili smo zajednički faktor (-1),

$=(-1)^2\cdot(a+b)^2=$ pa smo primjenili pravilo: $(a\cdot b)^n=a^n\cdot b^n$

$=1\cdot(a+b)^2=$ $(-1)^2=1$

$=(a+b)^2$

Sada taj postupak primjenimo u: 71. , 72. , 73. , 74. ,

71) $(-x-3)^2=(-1\cdot(x+3))^2=(-1)^2\cdot(x+3)^2=1\cdot(x^2+2\cdot x\cdot 3+3^2)=x^2+6x+9$

72) $(-x-2y)^2=(-1\cdot(x+2y))^2=$ Izlučimo zajednički faktor (-1),

$=(-1)^2\cdot(x+2y)^2=$ pa primjenimo pravilo: $(a\cdot b)^n=a^n\cdot b^n$

$=1\cdot(x^2+2\cdot x\cdot 2\cdot y+(2y)^2)=$

$=1\cdot(x^2+4xy+2^2y^2)=$

$=x^2+4xy+4y^2$

73) $(-2a-3b)^2=(-1\cdot(2a+3b))^2=$

$=(-1)^2\cdot(2a+3b)^2=$

$=1\cdot((2a)^2+2\cdot 2\cdot a\cdot 3\cdot b+(3b)^2)=$

$=1\cdot(2^2\cdot a^2+12ab+3^2b^2)=$

$=4a^2+12ab+9b^2$

74) $(-x-4y)^2=(-1\cdot(x+4y))^2=$

$=(-1)^2\cdot(x+4y)^2=$

$=1\cdot(x^2+2\cdot x\cdot 4\cdot y+(4y^2)^2)=$

$=x^2+8xy+4^2(y^2)^2=$

$=x^2+8xy+16y^4$

75) $\left(-\frac{1}{2}x-4y^2\right)^2=\left(-1\cdot\left(\frac{1}{2}x+4y^2\right)\right)^2=$

$=(-1)^2\cdot\left(\frac{1}{2}x+4y^2\right)^2=$

$=1\cdot\left(\left(\frac{1}{2}x\right)^2+2\cdot\frac{1}{2}\cdot x\cdot 4\cdot y^2+(4y^2)^2\right)=$

$=\frac{1^2}{2^2}x^2+4xy^2+4^2(y^2)^2=$

$=\frac{1}{4}x^2+4xy^2+16y^4$

76) $(-a+7b)^2=(7b-a)^2=$

$=(7b)^2-2\cdot 7\cdot b\cdot a+a^2=$

$=7^2b^2-14ba+a^2$

$=49b^2-14ba+a^2$

ili

$=a^2-14ab+49b^2$

34.77) $(-3x+y)^2=(y-3x)^2=$ prvom i drugom članu zamjenimo mjesta tako da drugi bude sa predznakom $(-)$ ...i dalje je lako...

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

$=y^2-6yx+3^2x^2=$

$=y^2-6yx+9x^2$ *ili* $=9x^2-6xy+y^2$ obadva rj. su ispravna i ista...

Taj zadatak možemo rješiti i na još dva načina:

II način:

77) $(-3x+y)^2=(-1\cdot(3x-y))^2=$

$=(-1)^2\cdot(3x-y)^2=$

$=1\cdot((3x)^2-2\cdot 3x\cdot y+y^2)=$

$=3^2x^2-6xy+y^2=$

$=9x^2-6xy+y^2$

III način:

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

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

$=9x^2-6xy+y^2$

Uvijek dobijemo isto rješenje...pa birajte... na koji način će te rješavat ovakve zadatke

78) $(-5a^2b^3+2c^4)^2=(2c^4-5a^2b^3)^2=$

$=(2c^4)^2-2\cdot 2\cdot c^4\cdot 5\cdot a^2\cdot b^3+(5a^2b^3)^2=$

$=2^2(c^4)^2-20a^2b^3c^4+5^2(a^2)^2\cdot(b^3)^2=$

$=4c^{4\cdot 2}-20a^2b^3c^4+25a^{2\cdot 2}b^{3\cdot 2}=$

$=4c^8-20a^2b^3c^4+25a^4b^6$ ili $=25a^4b^6-20a^2b^3c^4+4c^8$

79) $(-2x^2y^3+3z^4)^2=(3z^4-2x^2y^3)^2=$

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

$=3^2(z^4)^2-12z^4x^2y^3+2^2(x^2)^2\cdot(y^3)^2=$

$=9z^{4\cdot 2}-12x^2y^3z^4+4x^{2\cdot 2}y^{3\cdot 2}=$

$=9z^8-12x^2y^3z^4+4x^4y^6$ ili $=4x^4y^6-12x^2y^3z^4+9z^8$

80) $(-2^m+2^n)^2=(2^n-2^m)^2=$

$=(2^n)^2-2\cdot 2^n\cdot 2^m+(2^m)^2=$

$=2^{n\cdot 2}-2^1\cdot 2^n\cdot 2^m+2^{m\cdot 2}=$

$=2^{2n}-2^{1+n+m}+2^{2m}=$ Rješenje možemo ostaviti u ovom obliku...

$=2^{2\cdot n}-2^{1+n+m}+2^{2\cdot m}=$

$=(2^2)^n-2^{n+m+1}+(2^2)^m=$

$=4^n-2^{n+m+1}+4^m$ ili u ovom obliku, ovisi o tome kako radite u školi...

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

81) $\left(2^m + 3^n\right)^2 = \left(2^m\right)^2 + 2\cdot 2^m\cdot 3^n + \left(3^n\right)^2 =$
$= 2^{m\cdot 2} + 2^1\cdot 2^m\cdot 3^n + 3^{n\cdot 2} =$
$= 2^{2\cdot m} + 2^{1+m}\cdot 3^n + 3^{2\cdot n} =$
$= \left(2^2\right)^m + 2^{m+1}\cdot 3^n + \left(3^2\right)^n =$
$= 4^n + 2^{m+1}\cdot 3^n + 9^n$

82) $\left(3^m - 5^m\right)^2 = \left(3^m\right)^2 - 2\cdot 3^m\cdot 5^m + \left(5^m\right)^2 =$
$= 3^{m\cdot 2} - 2\cdot\left(3\cdot 5\right)^m + 5^{m\cdot 2} =$
$= 3^{2\cdot m} - 2\cdot 15^m + 5^{2\cdot m} =$
$= \left(3^2\right)^m - 2\cdot 15^m + \left(5^2\right)^m =$
$= 9^m - 2\cdot 15^m + 25^m$

83) $\left(2^m + 2^n\right)^2 = \left(2^m\right)^2 + 2\cdot 2^m\cdot 2^n + \left(2^n\right)^2 =$
$= 2^{m\cdot 2} + 2^1\cdot 2^m\cdot 2^n + 2^{n\cdot 2} =$
$= 2^{2\cdot m} + 2^{1+m+n} + 2^{2\cdot n} =$
$= \left(2^2\right)^m + 2^{m+n+1} + \left(2^2\right)^n =$
$= 4^m + 2^{m+n+1} + 4^n$

84) $\left(2^m + 2^{m-1}\right)^2 = \left(2^m\right)^2 + 2\cdot 2^m\cdot 2^{m-1} + \left(2^{m-1}\right)^2 =$
$= 2^{m\cdot 2} + 2^1\cdot 2^m\cdot 2^{m-1} + 2^{(m-1)\cdot 2} =$
$= 2^{2\cdot m} + 2^{1+m+m-1} + 2^{2\cdot(m-1)} =$
$= \left(2^2\right)^m + 2^{2m} + \left(2^2\right)^{m-1} =$
$= 4^m + \left(2^2\right)^m + 4^{m-1} =$
$= 4^m + 4^m + 4^{m-1} =$
$= 2\cdot 4^m + 4^{m-1}$

85) $\left(3^m - 3^n\right)^2 = \left(3^m\right)^2 - 2\cdot 3^m\cdot 3^n + \left(3^n\right)^2 =$
$= 3^{m\cdot 2} - 2\cdot 3^{m+n} + 3^{n\cdot 2} =$
$= 3^{2\cdot m} - 2\cdot 3^{m+n} + 3^{2\cdot n} =$
$= \left(3^2\right)^m - 2\cdot 3^{m+n} + \left(3^2\right)^n =$
$= 9^m - 2\cdot 3^{m+n} + 9^n$

86) $\left(2^{m+1} + 2^{m-1}\right)^2 = \left(2^{m+1}\right)^2 + 2\cdot 2^{m+1}\cdot 2^{m-1} + \left(2^{m-1}\right)^2 =$
$= 2^{(m+1)\cdot 2} + 2^1\cdot 2^{m+1}\cdot 2^{m-1} + 2^{(m-1)\cdot 2} =$
$= 2^{2\cdot(m+1)} + 2^{1+m+1+m-1} + 2^{2\cdot(m-1)} =$
$= \left(2^2\right)^{m+1} + 2^{2m+1} + \left(2^2\right)^{m-1} =$
$= 4^{m+1} + 2^{2m+1} + 4^{m-1}$

87) $\left(2^n + 2^{1-n}\right)^2 = \left(2^n\right)^2 - 2\cdot 2^n\cdot 2^{1-n} + \left(2^{1-n}\right)^2 =$
$= 2^{n\cdot 2} - 2^1\cdot 2^n\cdot 2^{1-n} + 2^{(1-n)\cdot 2} =$
$= 2^{2\cdot n} - 2^{1+n+1-n} + 2^{2\cdot(1-n)} =$
$= \left(2^2\right)^n - 2^2 + \left(2^2\right)^{1-n} =$
$= 4^n - 4 + 4^{1-n}$

34. Kvadriramo po pravilu: $(A+B)^2 = A^2 + 2\cdot A\cdot B + B^2$ i $(A-B)^2 = A^2 - 2\cdot A\cdot B + B^2$

88) $\left(2^{n+1} - 2^{n-2}\right)^2 = \left(2^{n+1}\right)^2 - 2\cdot 2^{n+1}\cdot 2^{n-2} + \left(2^{n-2}\right)^2 =$

$= 2^{(n+1)\cdot 2} - 2^1\cdot 2^{n+1}\cdot 2^{n-2} + 2^{(n-2)\cdot 2} =$

$= 2^{2\cdot(n+1)} - 2^{1+n+1+n-2} + 2^{2\cdot(n-2)} =$

$= \left(2^2\right)^{n+1} - 2^{2n} + \left(2^2\right)^{n-2} =$

$= 4^{n+1} - \left(2^2\right)^n + 4^{n-2} =$

$= 4^{n+1} - 4^n + 4^{n-2}$

89) $\left(a^n + a^{n+1}\right)^2 = \left(a^n\right)^2 + 2\cdot a^n\cdot a^{n+1} + \left(a^{n+1}\right)^2 =$

$= a^{n\cdot 2} + 2\cdot a^{n+n+1} + a^{(n+1)\cdot 2} =$

$= a^{2n} + 2a^{2n+1} + a^{2n+1}$

90) $\left(a^{n-1} - a^{n+1}\right)^2 = \left(a^{n-1}\right)^2 - 2\cdot a^{n-1}\cdot a^{n+1} + \left(a^{n+1}\right)^2 =$

$= a^{(n-1)\cdot 2} - 2\cdot a^{n-1+n+1} + a^{(n+1)\cdot 2} =$

$= a^{2n-2} - 2a^{2n} + a^{2n+2}$

91) $\left(2a^x - 3b^x\right)^2 = \left(2a^x\right)^2 - 2\cdot 2\cdot a^x\cdot 3\cdot b^x + \left(3b^x\right)^2 =$

$= 2^2\left(a^x\right)^2 - 12\cdot a^x\cdot b^x + 3^2\left(b^x\right)^2 =$

$= 4a^{x\cdot 2} - 12a^x b^x + 9b^{x\cdot 2} =$

$= 4a^{2x} - 12a^x b^x 9b^{2x}$

92) $\left(2a^x + 3b^y\right)^2 = \left(2a^x\right)^2 + 2\cdot 2a^x\cdot 3b^y + \left(3b^y\right)^2 =$

$= 2^2\left(a^x\right)^2 + 12a^x b^y + 3^2\left(b^y\right)^2 =$

$= 4a^{x\cdot 2} + 12a^x b^y + 9b^{y\cdot 2} =$

$= 4a^{2x} + 12a^x b^y + 9b^{2y}$