

7. Koristeći formulu za razliku kvadrata: $(A - B)(A + B) = A^2 - B^2$

izračunaj:

- | | | |
|--|--|--|
| 1) $(x - y)(x + y)$ | 2) $(x - 1)(x + 1)$ | 3) $(x - 2)(x + 2)$ |
| 4) $(x + 3)(x - 3)$ | 5) $(3a + b)(3a - b)$ | 6) $(2a - 3b)(2a + 3b)$ |
| 7) $(2xy - 5z)(2xy + 5z)$ | 8) $(4x + 3yz)(4x - 3yz)$ | 9) $(3ba - 7c)(3ba + 7c)$ |
| 10) $\left(\frac{1}{2}x + y\right)\left(\frac{1}{2}x - y\right)$ | 11) $\left(\frac{2}{3} - x\right)\left(\frac{2}{3} + x\right)$ | 12) $\left(5a - \frac{3}{4}b\right)\left(5a + \frac{3}{4}b\right)$ |
| 13) $(200 - 2)(200 + 2)$ | 14) $(300 - 7)(300 + 7)$ | 15) $(100 - 9)(100 + 9)$ |
| 16) $48 \cdot 52$ | 17) $97 \cdot 103$ | 18) $195 \cdot 205$ |
| 19) $\left(\frac{2}{3}x - 0,2\right)\left(\frac{2}{3}x + 0,2\right)$ | 20) $\left(\frac{1}{2}x - \frac{1}{3}y\right)\left(\frac{1}{2}x + \frac{1}{3}y\right)$ | |
| 21) $\left(\frac{3}{4}xy - 2z\right)\left(\frac{3}{4}xy + 2z\right)$ | 22) $\left(\frac{2}{3}x^2 - 5y^4z^5\right)\left(\frac{2}{3}x^2 + 5y^4z^5\right)$ | |
| 23) $\left(\frac{1}{2}x^5 + \frac{3}{yz}\right)\left(\frac{1}{2}x^5 - \frac{3}{yz}\right)$ | 24) $\left(\frac{4}{5}x^2 - \frac{5}{7y^3z^4}\right)\left(\frac{4}{5}x^2 + \frac{5}{7y^3z^4}\right)$ | |
| 25) $\left(2\frac{2}{3}x - y\right)\left(2\frac{2}{3}x + y\right)$ | 26) $\left(1\frac{1}{3}x - 2\frac{2}{5}y\right)\left(1\frac{1}{3}x + 2\frac{2}{5}y\right)$ | |
| 27) $(0,3x - 5)(0,3x + 5)$ | 28) $\left(1\frac{1}{2}x^2 - \frac{1}{3}y\right)\left(1\frac{1}{2}x^2 + \frac{1}{3}y\right)$ | |
| 29) $(0,1x - 0,2)(0,1x + 0,2)$ | 30) $(x^4 - 0,75)(x^4 + 0,75)$ | |
| 31) $(0,1x^3 - 0,3y)(0,1x^3 + 0,3y)$ | 32) $(a - b^2)(a + b^2)$ | |
| 33) $(3 - a^2)(3 + a^2)$ | 34) $(x^2 - y^3)(x^2 + y^3)$ | |
| 35) $(x^3 - y^5)(x^3 + y^5)$ | 36) $(7x^2 - 5y^3)(7x^2 + 5y^3)$ | |
| 37) $(5x^7 - y^2)(5x^7 + y^2)$ | 38) $(4x^2 - 3y^3)(4x^2 + 3y^3)$ | |
| 39) $(2x^2y^3 - 3z^4)(2x^2y^3 + 3z^4)$ | 40) $(4a^3b^2 - 7c^5)(4a^3b^2 + 7c^5)$ | |
| 41) $(3x^3y - 3z^2)(3x^3y + 3z^2)$ | 42) $(9x^5 - 11y^3z)(9x^5 + 11y^3z)$ | |
| 43) $(3x^2y^3z^4 - 4a^5b^6)(3x^2y^3z^4 + 4a^5b^6)$ | 44) $(2ab^2 + c^3)(2ab^2 - c^3)$ | |
| 45) $(a^x + a^y)(a^x - a^y)$ | 46) $(2a^x - 3b^y)(2a^x + 3b^y)$ | |
| 47) $(2^m - 2^n)(2^m + 2^n)$ | 48) $(3^n - 2^m)(3^n + 2^n)$ | |
| 49) $(x^n + y^m)(x^n - y^m)$ | 50) $(x^{n+1} - y^{m-2})(x^{n+1} + y^{m-2})$ | |
| 51) $(x + y - 1)(x + y + 1)$ | 52) $(x + y - 1)(x - y - 1)$ | |

7. Koristeći formulu za razliku kvadrata: $(A - B)(A + B) = A^2 - B^2$

- | | |
|--|--|
| 53) $(3x + y - z)(3x - y + z)$ | 54) $(a + b + c)(a - b - c)$ |
| 55) $(x - y - 1)(y + 1 + x)$ | 56) $(2x - 3y + 5z)(2x + 3y - 5z)$ |
| 57) $(x + 2y - z)(x - 2y - z)$ | 58) $(x - 2y - 8z)(x + 2y - 8z)$ |
| 59) $(2x^2 + 3y^3 + 5z^6)(2x^2 + 3y^3 - 5z^6)$ | 60) $(5x - 4y^2 + z^3)(5x + 4y^2 - z^3)$ |

7. Koristimo formulu za razliku kvadrata: $(A-B)(A+B) = A^2 - B^2$

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

$$2) (x-1)(x+1) = x^2 - 1^2 = x^2 - 1$$

$$3) (x-2)(x+2) = x^2 - 2^2 = x^2 - 4$$

$$4) (x+3)(x-3) = x^2 - 3^2 = x^2 - 9$$

$$\begin{aligned} 5) (3a+b)(3a-b) &= (3a)^2 - b^2 = \\ &= 3^2 \cdot a^2 - b^2 = \\ &= 9a^2 - b^2 \end{aligned}$$

$$\begin{aligned} 6) (2a-3b)(2a+3b) &= (2a)^2 - (3b)^2 = \\ &= 2^2 \cdot a^2 - 3^2 \cdot b^2 = \\ &= 4a^2 - 9b^2 \end{aligned}$$

$$\begin{aligned} 7) (2xy-5z)(2xy+5z) &= (2xy)^2 - (5z)^2 = \\ &= 2^2 \cdot x^2 \cdot y^2 - 5^2 \cdot z^2 = \\ &= 4x^2y^2 - 25z^2 \end{aligned}$$

$$\begin{aligned} 8) (4x+3yz)(4x-3yz) &= (4x)^2 - (3yz)^2 = \\ &= 4^2 \cdot x^2 - 3^2 \cdot y^2 \cdot z^2 = \\ &= 16x^2 - 9y^2z^2 \end{aligned}$$

$$\begin{aligned} 9) (3ba-7c)(3ba+7c) &= (3ba)^2 - (7c)^2 = \\ &= 3^2 \cdot b^2 \cdot a^2 - 7^2 c^2 = \\ &= 9b^2a^2 - 49c^2 = \quad \text{ili} \quad = 9a^2b^2 - 49c^2 \end{aligned}$$

7. Koristimo formulu za razliku kvadrata: $(A-B)(A+B) = A^2 - B^2$

$$\begin{aligned} 10) \quad \left(\frac{1}{2}x+y\right)\left(\frac{1}{2}x-y\right) &= \left(\frac{1}{2}x\right)^2 - y^2 = \\ &= \frac{1^2}{2^2} \cdot x^2 - y^2 = \\ &= \frac{1}{4}x^2 - y^2 \end{aligned}$$

$$\begin{aligned} 11) \quad \left(\frac{2}{3}-x\right)\left(\frac{2}{3}+x\right) &= \left(\frac{2}{3}\right)^2 - x^2 = \\ &= \frac{2^2}{3^2} - x^2 = \\ &= \frac{4}{9} - x^2 \end{aligned}$$

$$\begin{aligned} 12) \quad \left(5a-\frac{3}{4}b\right)\left(5a+\frac{3}{4}b\right) &= (5a)^2 - \left(\frac{3}{4}b\right)^2 = \\ &= 5^2 \cdot a^2 - \frac{3^2}{4^2} \cdot b^2 = \\ &= 25a^2 - \frac{9}{16}b^2 \end{aligned}$$

$$13) \quad (200-2)(200+2) = 200^2 - 2^2 = 40000 - 4 = 39996$$

$$14) \quad (300-7)(300+7) = 300^2 - 7^2 = 90000 - 49 = 89951$$

$$15) \quad (100-9)(100+9) = 100^2 - 9^2 = 10000 - 81 = 9919$$

$$16) \quad 48 \cdot 52 = (50-2) \cdot (50+2) = 50^2 - 2^2 = 2500 - 4 = 2496$$

$$17) \quad 97 \cdot 103 = (100-3) \cdot (100+3) = 100^2 - 3^2 = 10000 - 9 = 9991$$

$$18) \quad 195 \cdot 205 = (200-5) \cdot (200+5) = 200^2 - 5^2 = 40000 - 25 = 39975$$

7. Koristomo formulu za razliku kvadrata: $(A - B)(A + B) = A^2 - B^2$

$$19) \left(\frac{2}{3}x - 0.2\right)\left(\frac{2}{3}x + 0.2\right) = \left(\frac{2}{3}x\right)^2 - 0.2^2 = \\ = \frac{2^2}{3^2} \cdot x^2 - 0.04$$

ili na drugi način:

$$\left(\frac{2}{3}x - 0.2\right)\left(\frac{2}{3}x + 0.2\right) = \left(\frac{2}{3}x\right)^2 - \left(\frac{2}{10}\right)^2 = \left(\frac{2}{3}x\right)^2 - \left(\frac{1}{5}\right)^2 = \\ = \frac{2^2}{3^2} \cdot x^2 - \frac{1^2}{5^2} = \\ = \frac{4}{9}x^2 - \frac{1}{5}$$

$$20) \left(\frac{1}{2}x - \frac{1}{3}y\right)\left(\frac{1}{2}x + \frac{1}{3}y\right) = \left(\frac{1}{2}x\right)^2 - \left(\frac{1}{3}y\right)^2 = \\ = \frac{1^2}{2^2} \cdot x^2 - \frac{1^2}{3^2} \cdot y^2 = \\ = \frac{1}{4}x^2 - \frac{1}{9}y^2$$

$$21) \left(\frac{3}{4}xy - 2z\right)\left(\frac{3}{4}xy + 2z\right) = \left(\frac{3}{4}xy\right)^2 - (2z)^2 = \\ = \frac{3^2}{4^2} \cdot x^2 \cdot y^2 - 2^2 \cdot z^2 = \\ = \frac{9}{16}x^2y^2 - 4z^2$$

$$22) \left(\frac{2}{3}x^2 - 5y^4z^5\right)\left(\frac{2}{3}x^2 + 5y^4z^5\right) = \left(\frac{2}{3}x^2\right)^2 - (5y^4z^5)^2 = \\ = \frac{2^2}{3^2} \cdot (x^2)^2 - 5^2 \cdot (y^4)^2 \cdot (z^5)^2 = \\ = \frac{4}{9} \cdot x^{2 \cdot 2} - 25 \cdot y^{4 \cdot 2} \cdot z^{5 \cdot 2} = \\ = \frac{4}{9}x^4 - 25y^8z^{10}$$

7. Koristimo formulu za razliku kvadrata: $(A-B)(A+B) = A^2 - B^2$

$$\begin{aligned}
 23) \quad \left(\frac{1}{2}x^5 + \frac{3}{yz}\right)\left(\frac{1}{2}x^5 - \frac{3}{yz}\right) &= \left(\frac{1}{2}x^5\right)^2 - \left(\frac{3}{yz}\right)^2 = \\
 &= \frac{1^2}{2^2} \cdot (x^5)^2 - \frac{3^2}{y^2 \cdot z^2} = \\
 &= \frac{1}{4}x^{10} - \frac{9}{y^2z^2}
 \end{aligned}$$

$$\begin{aligned}
 24) \quad \left(\frac{4}{5}x^2 - \frac{5}{7y^3z^4}\right)\left(\frac{4}{5}x^2 + \frac{5}{7y^3z^4}\right) &= \left(\frac{4}{5}x^2\right)^2 - \left(\frac{5}{7y^3z^4}\right)^2 = \\
 &= \frac{4^2}{5^2} \cdot (x^2)^2 - \frac{5^2}{7^2 \cdot (y^3)^2 \cdot (z^4)^2} = \\
 &= \frac{16}{25} \cdot x^{2 \cdot 2} - \frac{25}{49 \cdot y^{3 \cdot 2} \cdot z^{4 \cdot 2}} = \\
 &= \frac{16}{25}x^2 - \frac{25}{49y^6z^8}
 \end{aligned}$$

$$\begin{aligned}
 25) \quad \left(2\frac{2}{3}x - y\right)\left(2\frac{2}{3}x + y\right) &= \left(2\frac{2}{3}x\right)^2 - y^2 = \\
 &= \left(\frac{2 \cdot 3 + 2}{3}x\right)^2 - y^2 = \\
 &= \left(\frac{8}{3}x\right)^2 - y^2 = \\
 &= \frac{8^2}{3^2} \cdot x^2 - y^2 = \\
 &= \frac{64}{9}x^2 - y^2
 \end{aligned}$$

$$\begin{aligned}
 26) \quad \left(1\frac{1}{3}x - 2\frac{2}{5}y\right)\left(1\frac{1}{3}x + 2\frac{2}{5}y\right) &= \left(1\frac{1}{3}x\right)^2 - \left(2\frac{2}{5}y\right)^2 = \\
 &= \left(\frac{1 \cdot 3 + 1}{3}x\right)^2 - \left(\frac{2 \cdot 5 + 2}{5}y\right)^2 = \\
 &= \left(\frac{4}{3}x\right)^2 - \left(\frac{12}{5}y\right)^2 = \\
 &= \frac{4^2}{3^2} \cdot x^2 - \frac{12^2}{5^2} \cdot y^2 = \\
 &= \frac{16}{9}x^2 - \frac{144}{25}y^2
 \end{aligned}$$

7. Koristimo formulu za razliku kvadrata: $(A - B)(A + B) = A^2 - B^2$

$$\begin{aligned}
 27) \quad (0.3x - 5)(0.3x + 5) &= (0.3x)^2 - 5^2 = \\
 &= 0.3^2 \cdot x^2 - 25 = && \rightarrow [0.3^2 = 0.3 \cdot 0.3 = 0.9] \\
 &= 0.09x^2 - 25
 \end{aligned}$$

$$\begin{aligned}
 28) \quad \left(1\frac{1}{2}x^2 - \frac{1}{3}y\right)\left(1\frac{1}{2}x^2 + \frac{1}{3}y\right) &= \left(1\frac{1}{2}x^2\right)^2 - \left(\frac{1}{3}y\right)^2 = \\
 &= \left(1\frac{1}{2}\right)^2 \cdot (x^2)^2 - \left(\frac{1}{3}\right)^2 \cdot (y^2)^2 = \\
 &= \left(\frac{1 \cdot 2 + 1}{2}\right)^2 \cdot x^{2 \cdot 2} - \frac{1^2}{3^2} \cdot y^{2 \cdot 2} = \\
 &= \left(\frac{3}{2}\right)^2 \cdot x^4 - \frac{1}{9}y^2 = \\
 &= \frac{9}{4}x^4 - \frac{1}{9}y^2
 \end{aligned}$$

$$\begin{aligned}
 29) \quad (0.1x - 0.2)(0.1x + 0.2) &= (0.1x)^2 - 0.2^2 = \\
 &= 0.1^2 \cdot x^2 - 0.04 = \\
 &= 0.01x^2 - 0.04
 \end{aligned}$$

$$\begin{aligned}
 30) \quad (x^4 - 0.75)(x^4 + 0.75) &= (x^4)^2 - 0.75^2 = \\
 &= x^{4 \cdot 2} - 0.5625 = \\
 &= x^8 - 0.5625
 \end{aligned}$$

$$\begin{aligned}
 31) \quad (0.1x^3 - 0.3y)(0.1x^3 + 0.3y) &= (0.1x^3)^2 - (0.3y)^2 = \\
 &= 0.1^2 \cdot (x^3)^2 - 0.3^2 \cdot y^2 = \\
 &= 0.01 \cdot x^{3 \cdot 2} - 0.09y^2 = && \rightarrow [0.3^2 = 0.3 \cdot 0.3 = 0.9] \\
 &= 0.01x^6 - 0.09y^2
 \end{aligned}$$

7. Koristimo formulu za razliku kvadrata: $(A-B)(A+B) = A^2 - B^2$

$$\begin{aligned} 32) \quad (a-b^2)(a+b^2) &= a^2 - (b^2)^2 = \\ &= a^2 - b^{2 \cdot 2} = \\ &= a^2 - b^4 \end{aligned}$$

$$\begin{aligned} 33) \quad (3-a^2)(3+a^2) &= 3^2 - (a^2)^2 = \\ &= 9 - a^{2 \cdot 2} = \\ &= 9 - a^4 \end{aligned}$$

$$\begin{aligned} 34) \quad (x^2 - y^3)(x^2 + y^3) &= (x^2)^2 - (y^3)^2 = \\ &= x^{2 \cdot 2} - y^{3 \cdot 2} = \\ &= x^4 - y^6 \end{aligned}$$

$$\begin{aligned} 35) \quad (x^3 - y^5)(x^3 + y^5) &= (x^3)^2 - (y^5)^2 = \\ &= x^{3 \cdot 2} - y^{5 \cdot 2} = \\ &= x^6 - y^{10} \end{aligned}$$

$$\begin{aligned} 36) \quad (7x^2 - 5y^3)(7x^2 + 5y^3) &= (7x^2)^2 - (5y^3)^2 = \\ &= 7^2 \cdot (x^2)^2 - 5^2 \cdot (y^3)^2 = \\ &= 49x^{2 \cdot 2} - 25y^{3 \cdot 2} = \\ &= 49x^4 - 25y^6 \end{aligned}$$

$$\begin{aligned} 37) \quad (5x^7 - y^2)(5x^7 + y^2) &= (5x^7)^2 - (y^2)^2 = \\ &= 5^2 \cdot (x^7)^2 - y^{2 \cdot 2} = \\ &= 25 \cdot x^{7 \cdot 2} - y^4 = \\ &= 25x^{14} - y^4 \end{aligned}$$

$$38) \quad (4x^2 - 3y^3)(4x^2 + 3y^3)$$

7. Koristimo formulu za razliku kvadrata: $(A-B)(A+B) = A^2 - B^2$

$$\begin{aligned}
 38) \quad (4x^2 - 3y^3)(4x^2 + 3y^3) &= (4x^2)^2 - (3y^3)^2 = \\
 &= 4^2 \cdot (x^2)^2 - 3^2 \cdot (y^3)^2 = \\
 &= 16 \cdot x^{2 \cdot 2} - 9 \cdot y^{3 \cdot 2} = \\
 &= 16x^4 - 9y^6
 \end{aligned}$$

$$\begin{aligned}
 39) \quad (2x^2y^3 - 3z^4)(2x^2y^3 + 3z^4) &= (2x^2y^3)^2 - (3z^4)^2 = \\
 &= 2^2 \cdot (x^2)^2 \cdot (y^3)^2 - 3^2 \cdot (z^4)^2 = \\
 &= 4 \cdot x^{2 \cdot 2} \cdot y^{3 \cdot 2} - 9 \cdot z^{4 \cdot 2} = \\
 &= 4x^4y^6 - 9z^8
 \end{aligned}$$

$$\begin{aligned}
 40) \quad (4a^3b^2 - 7c^5)(4a^3b^2 + 7c^5) &= (4a^3b^2)^2 - (7c^5)^2 = \\
 &= 4^2 \cdot (a^3)^2 \cdot (b^2)^2 - 7^2 \cdot (c^5)^2 = \\
 &= 16 \cdot a^{3 \cdot 2} \cdot b^{2 \cdot 2} - 49 \cdot c^{5 \cdot 2} = \\
 &= 16a^6b^4 - 49c^{10}
 \end{aligned}$$

$$\begin{aligned}
 41) \quad (3x^3y - 3z^2)(3x^3y + 3z^2) &= (3x^3y)^2 - (3z^2)^2 = \\
 &= 3^2 \cdot (x^3)^2 \cdot y^2 - 3^2 \cdot (z^2)^2 = \\
 &= 9x^{3 \cdot 2} \cdot y^2 - 9z^{2 \cdot 2} = \\
 &= 9x^6y^2 - 9z^4
 \end{aligned}$$

$$\begin{aligned}
 42) \quad (9x^5 - 11y^3z)(9x^5 + 11y^3z) &= (9x^5)^2 - (11y^3z)^2 = \\
 &= 9^2 \cdot (x^5)^2 - 11^2 \cdot (y^3)^2 \cdot z^2 = \\
 &= 81 \cdot x^{5 \cdot 2} - 121 \cdot y^{3 \cdot 2} \cdot z^2 = \\
 &= 81x^{10} - 121y^6z^2
 \end{aligned}$$

7. Koristeći formulu za razliku kvadrata: $(A - B)(A + B) = A^2 - B^2$

$$\begin{aligned}
 43) \quad (3x^2y^3z^4 - 4a^5b^6)(3x^2y^3z^4 + 4a^5b^6) &= (3x^2y^3z^4)^2 - (4a^5b^6)^2 = \\
 &= 3^2 \cdot (x^2)^2 \cdot (y^3)^2 \cdot (z^4)^2 - 4^2 \cdot (a^5)^2 \cdot (b^6)^2 = \\
 &= 9 \cdot x^{2 \cdot 2} \cdot y^{3 \cdot 2} \cdot z^{4 \cdot 2} - 16 \cdot a^{5 \cdot 2} \cdot b^{6 \cdot 2} = \\
 &= 9x^4y^6z^8 - 16a^{10}b^{12}
 \end{aligned}$$

$$\begin{aligned}
 44) \quad (2ab^2 + c^3)(2ab^2 - c^3) &= (2ab^2)^2 - (c^3)^2 = \\
 &= 2^2 \cdot a^2 \cdot (b^2)^2 - c^{3 \cdot 2} = \\
 &= 4a^2b^4 - c^6
 \end{aligned}$$

$$\begin{aligned}
 45) \quad (a^x + a^y)(a^x - a^y) &= (a^x)^2 - (a^y)^2 = \\
 &= a^{x \cdot 2} - a^{y \cdot 2} = \\
 &= a^{2x} - a^{2y}
 \end{aligned}$$

$$\begin{aligned}
 46) \quad (2a^x - 3b^y)(2a^x + 3b^y) &= (2a^x)^2 - (3b^y)^2 = \\
 &= 2^2 \cdot (a^x)^2 - 3^2 \cdot (b^y)^2 = \\
 &= 4 \cdot a^{x \cdot 2} - 9 \cdot b^{y \cdot 2} = \\
 &= 4a^{2x} - 9b^{2y}
 \end{aligned}$$

$$\begin{aligned}
 47) \quad (2^m - 2^n)(2^m + 2^n) &= (2^m)^2 - (2^n)^2 = \\
 &= 2^{m \cdot 2} - 2^{n \cdot 2} = \\
 &= 2^{2m} - 2^{2n}
 \end{aligned}$$

Možemo ostaviti u ovom obliku $\uparrow\uparrow$ ali možemo nastaviti i dalje:

$$\begin{aligned}
 &= (2^2)^m - (2^2)^n = \\
 &= 4^m - 4^n
 \end{aligned}$$

$$\begin{aligned}
 48) \quad (3^n - 2^m)(3^n + 2^m) &= (3^n)^2 - (2^m)^2 = \\
 &= 3^{n \cdot 2} - 2^{m \cdot 2} = \\
 &= 3^{2n} - 2^{2m}
 \end{aligned}$$

Možemo ostaviti u ovom $\uparrow\uparrow$ obliku ali možemo nastaviti i dalje:

$$\begin{aligned}
 &= (3^2)^n - (2^2)^m = \\
 &= 9^n - 4^m
 \end{aligned}$$

7. Koristimo formulu za razliku kvadrata: $(A-B)(A+B) = A^2 - B^2$

$$\begin{aligned} 49) \quad (x^n + y^m)(x^n - y^m) &= (x^n)^2 - (y^m)^2 = \\ &= x^{n \cdot 2} - y^{m \cdot 2} = \\ &= x^{2n} - y^{2m} \end{aligned}$$

$$\begin{aligned} 50) \quad (x^{n+1} - y^{m-2})(x^{n+1} + y^{m-2}) &= (x^{n+1})^2 - (y^{m-2})^2 = \\ &= x^{(n+1) \cdot 2} - y^{(m-2) \cdot 2} = \\ &= x^{2n+2} - y^{2m-4} \end{aligned}$$

$$\begin{array}{cccc} (& A & - & B) \cdot (& A & + & B) = A^2 - B^2 \\ & \uparrow & & \uparrow & & \uparrow & & \uparrow \end{array}$$

$$\begin{aligned} 51) \quad (x+y-1)(x+y+1) &= [(x+y)-1] \cdot [(x+y)+1] \\ &= (x+y)^2 - 1^2 = \\ &= x^2 + 2xy + y^2 - 1 = \\ &= x^2 + y^2 + 2xy - 1 \end{aligned}$$

$$\begin{aligned} 52) \quad (x+y-1)(x-y-1) &= [x+(y-1)] \cdot [x-(y+1)] = \\ &= x^2 - (y-1)^2 = \\ &= x^2 - (y^2 - 2 \cdot y \cdot 1 + 1^2) = && \rightarrow \text{pazi na minus ispred zagrade} \\ &= x^2 - (y^2 - 2y + 1) = \\ &= x^2 - y^2 + 2y - 1 \end{aligned}$$

$$\begin{aligned} 53) \quad (3x+y-z)(3x-y+z) &= [3x+(y-z)] \cdot [3x-(y-z)] = \\ &= (3x)^2 - (y-z)^2 = \\ &= 3^2 \cdot x^2 - (y^2 - 2yz + z^2) = \\ &= 9x^2 - y^2 + 2yz - z^2 = \\ &= 9x^2 - y^2 - z^2 + 2yz \end{aligned}$$

7. Koristimo formulu za razliku kvadrata: $(A - B)(A + B) = A^2 - B^2$

$$\begin{aligned}
 54) \quad (a + b + c)(a - b - c) &= [a + (b + c)] \cdot [a - (b + c)] = \\
 &= a^2 - (b + c)^2 = \\
 &= a^2 - (b^2 + 2bc + c^2) = \\
 &= a^2 - b^2 - 2bc - c^2 = \\
 &= a^2 - b^2 - c^2 - 2bc
 \end{aligned}$$

$$\begin{aligned}
 55) \quad (x - y - 1)(y + 1 + x) &= (x - y - 1) \cdot (x + y + 1) = \\
 &= [x - (y + 1)] \cdot [x + (y + 1)] = \\
 &= x^2 - (y + 1)^2 = \\
 &= x^2 - (y^2 + 2 \cdot y \cdot 1 + 1^2) = \\
 &= x^2 - y^2 - 2y + 1
 \end{aligned}$$

$$\begin{aligned}
 56) \quad (2x - 3y + 5z)(2x + 3y - 5z) &= [2x - (3y - 5z)] \cdot [2x + (3y - 5z)] = \\
 &= (2x)^2 - (3y - 5z)^2 = \\
 &= 2^2 \cdot x^2 - ((3y)^2 - 2 \cdot 3y \cdot 5z + (5z)^2) = \\
 &= 4x^2 - (9y^2 - 30yz + 25z^2) = \\
 &= 4x^2 - 9y^2 + 30yz - 25z^2 = \\
 &= 4x^2 - 9y^2 - 25z^2 + 30yz
 \end{aligned}$$

$$\begin{aligned}
 57) \quad (x + 2y - z)(x - 2y - z) &= (x - z + 2y) \cdot (x - z - 2y) = \\
 &= [(x - z) + 2y] \cdot [(x - z) - 2y] = \\
 &= (x - z)^2 - (2y)^2 = \\
 &= x^2 - 2xz + z^2 - 2^2 \cdot y^2 = \\
 &= x^2 - 4y^2 + z^2 - 2xz
 \end{aligned}$$

$$\begin{aligned}
 58) \quad (x - 2y - 8z)(x + 2y - 8z) &= (x - 8z - 2y) \cdot (x - 8z + 2y) = \\
 &= [(x - 8z) - 2y] \cdot [(x - 8z) + 2y] = \\
 &= (x - 8z)^2 - (2y)^2 = \\
 &= x^2 - 2 \cdot x \cdot 8z + (8z)^2 - 2^2 \cdot y^2 = \\
 &= x^2 - 16xz + 8^2 \cdot z^2 - 4y^2 = \\
 &= x^2 - 4y^2 + 64z^2 - 16xz
 \end{aligned}$$

7. Koristimo formulu za razliku kvadrata: $(A - B)(A + B) = A^2 - B^2$

$$\begin{aligned}
 59) \quad (2x^2 + 3y^3 + 5z^6)(2x^2 + 3y^3 - 5z^6) &= \left[(2x^2 + 3y^3) + 5z^6 \right] \cdot \left[(2x^2 + 3y^3) - 5z^6 \right] = \\
 &= (2x^2 + 3y^3)^2 - (5z^6)^2 = \\
 &= (2x^2)^2 + 2 \cdot 2x^2 \cdot 3y^3 + (3y^3)^2 - 5^2 \cdot (z^6)^2 = \\
 &= 2^2 \cdot (x^2)^2 + 12x^2y^3 + 3^2 \cdot (y^3)^2 - 25 \cdot z^{6 \cdot 2} = \\
 &= 4x^4 + 12x^2y^3 + 9y^6 - 25z^{12}
 \end{aligned}$$

Još malo upute:

$$\begin{aligned}
 &(2x^2 + 3y^3 + 5z^6)(2x^2 + 3y^3 - 5z^6) = \\
 &= \left[\underbrace{(2x^2 + 3y^3)}_A + \underbrace{5z^6}_B \right] \cdot \left[\underbrace{(2x^2 + 3y^3)}_A - \underbrace{5z^6}_B \right] = \underbrace{(2x^2 + 3y^3)^2}_A - \underbrace{(5z^6)^2}_B = \\
 &= (A + B) \cdot (A - B) = A^2 - B^2
 \end{aligned}$$

I dalje kvadriramo:

$$\begin{aligned}
 &= (2x^2)^2 + 2 \cdot 2x^2 \cdot 3y^3 + (3y^3)^2 - 5^2 \cdot (z^6)^2 = \\
 &= 2^2 \cdot (x^2)^2 + 12x^2y^3 + 3^2 \cdot (y^3)^2 - 25 \cdot z^{6 \cdot 2} = \\
 &= 4x^4 + 12x^2y^3 + 9y^6 - 25z^{12} =
 \end{aligned}$$

$$\begin{aligned}
 60) \quad (5x - 4y^2 + z^3)(5x + 4y^2 - z^3) &= \left[5x - (4y^2 - z^3) \right] \cdot \left[5x + (4y^2 - z^3) \right] = \\
 &= (5x)^2 - (4y^2 - z^3)^2 = \\
 &= 5^2 \cdot x^2 - \left[(4y^2)^2 - 2 \cdot 4y^2 \cdot z^3 + (z^3)^2 \right] = \\
 &= 25x^2 - \left[4^2 \cdot (y^2)^2 - 8y^2z^3 + z^{3 \cdot 2} \right] = \\
 &= 25x^2 - (16y^4 - 8y^2z^3 + z^6) = \\
 &= 25x^2 - 16y^4 + 8y^2z^3 - z^6
 \end{aligned}$$