ALGEBRAICKÉ VÝRAZY (M-09-05)

Vypočítejte. Nezapomeňte na vzorce: $(A + B)^2 = A^2 + 2AB + B^2$

$(A – B)^2 = A^2 - 2AB + B^2$

$A^2 – B^2 = (A + B)(A – B)$

1) $(2x^2 – 6 + 8x) – (6x + 2 – 9x^2) = 2x^2 – 6 + 8x – 6x + 2 + 9x^2 =$

$= \underline{11x^2 + 2x – 4}$

2) $12x - |2 + (6x – 9)| = 12x - |2 + 6x - 9| = 12x – 2 – 6x + 9 = \underline{6x + 7}$

3) $(3x – 2)(5x^2 – 8x + 6) = 15x^3 – 24x^2 + 18x – 10x^2 + 16x – 12 =$

$= \underline{15x^3 – 34x^2 + 34x – 12}$

4) $(2x + 1)(7x^2 – 4 + 3x)(4x – 5) = (14x^3 – 8x + 3x^2 + 7x^2 – 4 + 3x)(4x – 5) =$

$= 56x^4 – 32x^2 + 12x^3 + 28x^3 – 16x – 15x – 70x^3 + 40x - 15x^2 - 35x^2 + 20 – 15x =$

$= \underline{56x^4 – 30x^3 - 82x^2 – 6x + 20}$

5) $8y(5y – 7) – 2(5y – 7) = \underline{(8y – 2)(5y – 7)}$

6) $16x^2 – (4x – 5)^2 = (4x)^2 – (4x – 5)^2 = |4x + (4x - 5)| . |4x – (4x – 5)| =$

$= (4x + 4x – 5).(4x – 4x + 5) = (8x – 5).5 = \underline{5(8x – 5)}$

7) $x^3 + 2x^2 – 4x + 8 = x^2(x + 2) – 4(x + 2) = \underline{(x^2 – 4)(x + 2)}$

8) $9x^2 – 12xy + 4y^2 = (3x – 2y)(3x – 2y) = \underline{(3x – 2y)^2}$

9) $25x^2 – 121 = \underline{(5x – 11)(5x + 11)}$

10) $36x^2 – (12xy – y^2) = 36x^2 – 12xy + y^2 = (6x – y)(6x – y) = \underline{(6x – y)^2}$