

Квадрат бинома и разлика квадрата

848)

$$\begin{aligned} \text{a) } (5a-3b)^2 - 2(3a-2b)^2 &= (5a)^2 + 2 \cdot 5a \cdot (-3b) + (-3b)^2 - 2 \cdot ((3a)^2 + 2 \cdot 3a \cdot (-2b) + (-2b)^2) \\ &= 25a^2 - 30ab + 9b^2 - 2(9a^2 - 12ab + 4b^2) = 25a^2 - 30ab + 9b^2 - 2 \cdot 9a^2 - 2 \cdot (-12ab) - 2 \cdot 4b^2 \\ &= 25a^2 - 30ab + 9b^2 - 18a^2 + 24ab - 8b^2 = 7a^2 - 6ab + b^2 \end{aligned}$$

$$\begin{aligned} \text{б) } 2(7a-3x)^2 - 3(a-14x)^2 &= 2 \cdot ((7a)^2 + 2 \cdot 7a \cdot (-3x) + (-3x)^2) - 3 \cdot (a^2 + 2a \cdot (-14x) + (-14x)^2) \\ &= 2(49a^2 - 42ax + 9x^2) - 3(a^2 - 28ax + 196x^2) = \\ &= 2 \cdot 49a^2 + 2 \cdot (-42ax) + 2 \cdot 9x^2 - 3 \cdot a^2 - 3 \cdot (-28ax) - 3 \cdot 196x^2 = \\ &= 98a^2 - 84ax + 18x^2 - 3a^2 + 84ax - 588x^2 = 95a^2 - 570x^2 \end{aligned}$$

$$\begin{aligned} \text{в) } (5x+2y)^2 + 2(3x-5y)^2 &= (5x)^2 + 2 \cdot 5x \cdot 2y + (2y)^2 + 2 \cdot ((3x)^2 + 2 \cdot 3x \cdot (-5y) + (-5y)^2) = \\ &= 25x^2 + 20xy + 4y^2 + 2(9x^2 - 30xy + 25y^2) = \\ &= 25x^2 + 20xy + 4y^2 + 2 \cdot 9x^2 + 2 \cdot (-30xy) + 2 \cdot 25y^2 = \\ &= 25x^2 + 20xy + 4y^2 + 18x^2 - 60xy + 50y^2 = \\ &= 43x^2 - 40xy + 54y^2 \end{aligned}$$

866)

а) $(2x-5)(2x+5)$ ако је $x \neq \frac{5}{2}$

$$(2x-5)(2x+5) = (2x)^2 - 5^2 = 2^2 x^2 - 25 = 4x^2 - 25 = 4 \cdot 7 - 25 = 28 - 25 = 3$$

$$\begin{aligned} \text{б) } (3a-4b)(4b+3a) &= (3a-4b)(3a+4b) = (3a)^2 - (4b)^2 = 9a^2 - 16b^2 \\ &= 9 \cdot 0,6 - 16 \cdot 0,3 = 5,4 - 4,8 = 0,6 \end{aligned}$$

$$\begin{aligned} \text{в) } \frac{1}{5}(10xy+3)\left(\frac{3}{5}-2xy\right) &= \left(\frac{1}{5} \cdot 10xy + \frac{1}{5} \cdot 3\right)\left(\frac{3}{5}-2xy\right) = \\ &= \left(2xy + \frac{3}{5}\right)\left(\frac{3}{5}-2xy\right) = \left(\frac{3}{5}+2xy\right)\left(\frac{3}{5}-2xy\right) = \left(\frac{3}{5}\right)^2 - (2xy)^2 = \frac{9}{25} - 4x^2y^2 \\ &= \frac{9}{25} - 2 \cdot 2x^2y^2 = \frac{9}{25} - 2 \cdot \frac{1}{25} = \frac{9}{25} - \frac{2}{25} = \frac{7}{25} \end{aligned}$$

Зона ку 848 2 и 9