

6. 多項式の因数分解③

$$(1) (x+3)(2x+1) \quad (2) (x+6)(5x+2) \quad (3) (x-2)(3x+2) \quad (4) (x-3)(2x+1)$$

$$(5) (x+3y)(3x-2y) \quad (6) (2x-3y)(3x+4y) \quad (7) 2(x+2)(2x-5) \quad (8) 3(3x-4y)(4x-3y)$$

次の式を因数分解せよ。

$$(1) 2x^2 + 7x + 3 = (x+3)(2x+1)$$

$$\begin{array}{r} 1_x \quad 3 \quad \rightarrow 6_x \\ \quad \times \\ 2_x \quad 1 \quad \rightarrow 1_x \end{array}$$

$$(2) 5x^2 + 32x + 12 = (x+6)(5x+2)$$

$$\begin{array}{r} 1_x \quad 6 \quad \rightarrow 30_x \\ \quad \times \\ 5_x \quad 2 \quad \rightarrow 2_x \end{array}$$

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

$$\begin{array}{r} 1_x \quad -2 \quad \rightarrow -6_x \\ \quad \times \\ 3_x \quad 2 \quad \rightarrow 2_x \end{array}$$

$$(4) 2x^2 - 5x - 3 = (x-3)(2x+1)$$

$$\begin{array}{r} 1_x \quad -3 \quad \rightarrow -6_x \\ \quad \times \\ 2_x \quad 1 \quad \rightarrow 1_x \end{array}$$

$$(5) 3x^2 + 7xy - 6y^2 = (x+3y)(3x-2y)$$

$$\begin{array}{r} 1_x \quad 3_y \quad \rightarrow 9_{xy} \\ \quad \times \\ 3_x \quad -2_y \quad \rightarrow -2_{xy} \end{array}$$

$$(6) 6x^2 - xy - 12y^2 = (2x-3y)(3x+4y)$$

$$\begin{array}{r} 2_x \quad -3_y \quad \rightarrow -9_{xy} \\ \quad \times \\ 3_x \quad 4_y \quad \rightarrow 8_{xy} \end{array}$$

$$(7) 4x^2 - 2x - 20 = 2(2x^2 - x - 10)$$

$$= 2(x+2)(2x-5)$$

$$\begin{array}{r} 1_x \quad 2_y \quad \rightarrow 4_{xy} \\ \quad \times \\ 2_x \quad -5_y \quad \rightarrow -5_{xy} \end{array}$$

$$(8) 36x^2 - 75xy + 36y^2 = 3(12x^2 - 25xy + 12y^2)$$

$$= 3(3x-4y)(4x-3y)$$

$$\begin{array}{r} 3_x \quad -4_y \quad \rightarrow -16_{xy} \\ \quad \times \\ 4_x \quad -3_y \quad \rightarrow -9_{xy} \end{array}$$