

解説

練習 1 0 (1)  $4x^2(2x^2 - 3x + 5) = 4x^2 \times 2x^2 + 4x^2 \times (-3x) + 4x^2 \times 5 = 8x^4 - 12x^3 + 20x^2$

(2)  $(3a^2 - a - 2) \times (-2a) = 3a^2 \times (-2a) + (-a) \times (-2a) + (-2) \times (-2a) = -6a^3 + 2a^2 + 4a$

解説

練習 1 1 (1)  $(2x - 1)(4x^2 + 3) = (2x - 1) \cdot 4x^2 + (2x - 1) \cdot 3 = 8x^3 - 4x^2 + 6x - 3$

(2)  $(2x^2 + x - 3)(x - 2) = (2x^2 + x - 3)x + (2x^2 + x - 3) \cdot (-2) = 2x^3 + x^2 - 3x - 4x^2 - 2x + 6$   
 $= 2x^3 - 3x^2 - 5x + 6$

(3)  $(x + 3)(x^2 - 2x + 1) = x(x^2 - 2x + 1) + 3(x^2 - 2x + 1) = x^3 - 2x^2 + x + 3x^2 - 6x + 3$   
 $= x^3 + x^2 - 5x + 3$

(4)  $(2x + 1)(3x^2 + x - 2) = 2x(3x^2 + x - 2) + 1 \cdot (3x^2 + x - 2) = 6x^3 + 2x^2 - 4x + 3x^2 + x - 2$   
 $= 6x^3 + 5x^2 - 3x - 2$

解説

練習 1 2 (1)  $(2x + 5)^2 = (2x)^2 + 2 \cdot 2x \cdot 5 + 5^2 = 4x^2 + 20x + 25$

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

(3)  $(5x + 4y)(5x - 4y) = (5x)^2 - (4y)^2 = 25x^2 - 16y^2$

(4)  $(x + 1)(x + 5) = x^2 + (1 + 5)x + 1 \cdot 5 = x^2 + 6x + 5$

(5)  $(x - 3)(x + 8) = x^2 + (-3 + 8)x + (-3) \cdot 8 = x^2 + 5x - 24$

(6)  $(x - 2)(x - 4) = x^2 + \{(-2) + (-4)\}x + (-2) \cdot (-4) = x^2 - 6x + 8$

(7)  $(x + 2y)(x + 5y) = x^2 + (2y + 5y)x + 2y \cdot 5y = x^2 + 7xy + 10y^2$

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

(9)  $(x - 2a)(x - 7a) = x^2 + (-2a - 7a)x + (-2a) \cdot (-7a) = x^2 - 9ax + 14a^2$

解説

$$\begin{aligned}\text{練習 1 3 (1)} \quad (2x+1)(4x+5) &= 2 \cdot 4x^2 + (2 \cdot 5 + 1 \cdot 4)x + 1 \cdot 5 \\ &= 8x^2 + 14x + 5\end{aligned}$$

$$\begin{aligned}(2) \quad (x+4)(2x-3) &= 1 \cdot 2x^2 + \{1 \cdot (-3) + 4 \cdot 2\}x + 4 \cdot (-3) \\ &= 2x^2 + 5x - 12\end{aligned}$$

$$\begin{aligned}(3) \quad (3x-7)(x+2) &= 3 \cdot 1x^2 + \{3 \cdot 2 + (-7) \cdot 1\}x + (-7) \cdot 2 \\ &= 3x^2 - x - 14\end{aligned}$$

$$\begin{aligned}(4) \quad (2x-5)(2x-1) &= 2 \cdot 2x^2 + \{2 \cdot (-1) + (-5) \cdot 2\}x + (-5) \cdot (-1) \\ &= 4x^2 - 12x + 5\end{aligned}$$

$$\begin{aligned}(5) \quad (x+2y)(3x-y) &= 1 \cdot 3x^2 + \{1 \cdot (-y) + 2y \cdot 3\}x + 2y \cdot (-y) \\ &= 3x^2 + 5xy - 2y^2\end{aligned}$$

$$\begin{aligned}(6) \quad (3x-2a)(4x-3a) &= 3 \cdot 4x^2 + \{3 \cdot (-3a) + (-2a) \cdot 4\}x + (-2a) \cdot (-3a) \\ &= 12x^2 - 17ax + 6a^2\end{aligned}$$