

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