

因数分解② 解答と解説

1 解答 (1) $(x+1)(x+2)$ (2) $(x-1)(x-5)$ (3) $(x+3)(x-2)$ (4) $(x+2)(x-4)$

$$(1) \quad x^2 + 3x + 2 = x^2 + (1+2)x + 1 \times 2 \\ = (x+1)(x+2)$$

$$(2) \quad x^2 - 6x + 5 = x^2 + \{(-1) + (-5)\}x + (-1) \times (-5) \\ = (x-1)(x-5)$$

$$(3) \quad x^2 + x - 6 = x^2 + \{3 + (-2)\}x + 3 \times (-2) \\ = (x+3)(x-2)$$

$$(4) \quad x^2 - 2x - 8 = x^2 + \{2 + (-4)\}x + 2 \times (-4) \\ = (x+2)(x-4)$$

2 解答 (1) $(x+1)(x-5)$ (2) $(x+7)(x-1)$ (3) $(x+4)(x-2)$ (4) $(x+3)(x-5)$
(5) $(y+7)(y-2)$ (6) $(a+3)(a-10)$

$$(1) \quad x^2 - 4x - 5 = x^2 + \{1 + (-5)\}x + 1 \times (-5) \\ = (x+1)(x-5)$$

$$(2) \quad x^2 + 6x - 7 = x^2 + \{7 + (-1)\}x + 7 \times (-1) \\ = (x+7)(x-1)$$

$$(3) \quad x^2 + 2x - 8 = x^2 + \{4 + (-2)\}x + 4 \times (-2) \\ = (x+4)(x-2)$$

$$(4) \quad x^2 - 2x - 15 = x^2 + \{3 + (-5)\}x + 3 \times (-5) \\ = (x+3)(x-5)$$

$$(5) \quad y^2 + 5y - 14 = y^2 + \{7 + (-2)\}y + 7 \times (-2) \\ = (y+7)(y-2)$$

$$(6) \quad a^2 - 7a - 30 = a^2 + \{3 + (-10)\}a + 3 \times (-10) \\ = (a+3)(a-10)$$

3 解答 (1) $(x+2)(x+4)$ (2) $(x-3)(x-4)$ (3) $(x+3)(x+9)$ (4) $(x-4)(x-6)$

$$(1) \quad x^2 + 6x + 8 = x^2 + (2+4)x + 2 \times 4 \\ = (x+2)(x+4)$$

$$(2) \quad x^2 - 7x + 12 = x^2 + \{(-3) + (-4)\}x + (-3) \times (-4) \\ = (x-3)(x-4)$$

$$(3) \quad x^2 + 12x + 27 = x^2 + (3+9)x + 3 \times 9 \\ = (x+3)(x+9)$$

$$(4) \quad x^2 - 10x + 24 = x^2 + \{(-4) + (-6)\}x + (-4) \times (-6) \\ = (x-4)(x-6)$$