

乗法公式① 解答と解説

1 解答 (1) x^2+6x+5 (2) x^2+x-6 (3) $x^2-7x+12$ (4) y^2-y-30

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

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

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

$$(4) (y+5)(y-6) = y^2 + \{5+(-6)\}y + 5 \times (-6) \\ = y^2 - y - 30$$

2 解答 (1) $x^2+12x+27$ (2) $x^2+4x-32$ (3) $t^2-13t+42$

(4) $a^2+10a-24$ (5) $x^2+2x+\frac{3}{4}$ (6) $x^2-\frac{1}{2}x-\frac{3}{16}$

(7) $x^2+3x-18$

$$(1) (x+3)(x+9) = x^2 + (3+9)x + 3 \times 9 \\ = x^2 + 12x + 27$$

$$(2) (x-4)(x+8) = x^2 + \{(-4)+8\}x + (-4) \times 8 \\ = x^2 + 4x - 32$$

$$(3) (t-6)(t-7) = t^2 + \{(-6)+(-7)\}t + (-6) \times (-7) \\ = t^2 - 13t + 42$$

$$(4) (a+12)(a-2) = a^2 + \{12+(-2)\}a + 12 \times (-2) \\ = a^2 + 10a - 24$$

$$(5) \left(x + \frac{1}{2}\right)\left(x + \frac{3}{2}\right) = x^2 + \left(\frac{1}{2} + \frac{3}{2}\right)x + \frac{1}{2} \times \frac{3}{2} \\ = x^2 + 2x + \frac{3}{4}$$

$$(6) \left(x + \frac{1}{4}\right)\left(x - \frac{3}{4}\right) = x^2 + \left\{\frac{1}{4} + \left(-\frac{3}{4}\right)\right\}x + \frac{1}{4} \times \left(-\frac{3}{4}\right) \\ = x^2 - \frac{1}{2}x - \frac{3}{16}$$

$$(7) (-3+x)(x+6) = (x-3)(x+6) \\ = x^2 + \{(-3)+6\}x + (-3) \times 6 \\ = x^2 + 3x - 18$$