

P15

問

公式①を利用し、展開しなす

$$\begin{aligned}(x+a)^2 &= (x+a)(x+a) \\ &= x^2 + (a+a)x + a \times a \\ &= x^2 + 2ax + a^2\end{aligned}$$

$$\begin{aligned}(x-a)^2 &= (x-a)(x-a) \\ &= x^2 + (-a-a)x + (-a) \times (-a) \\ &= x^2 - 2ax + a^2\end{aligned}$$

公式②

$$(x+a)^2 = x^2 + 2ax + a^2$$

公式③

$$(x-a)^2 = x^2 - 2ax + a^2$$

$$(7-3) \quad (x+6)^2 = x^2 + 12x + 36$$

$$(7-4) \quad (y-5)^2 = y^2 - 10y + 25$$

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(154)

$$\begin{aligned}\textcircled{1} (x+3)^2 &= x^2 + 2 \times 3x + 3^2 \\ &= x^2 + 6x + 9\end{aligned}$$

$$\begin{aligned}\textcircled{2} (x-8)^2 &= x^2 - 2 \times 8x + 8^2 \\ &= x^2 - 16x + 64\end{aligned}$$

(154)

$$\begin{aligned}(x+a)(x-a) &= x^2 + (a-a)x + a \times (-a) \\ &= x^2 - a^2 \quad "0\end{aligned}$$

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(7-5)

$$(x+3)(x-3) = x^2 - 9$$

公式④

$$(x+a)(x-a) = x^2 - a^2$$

問4

$$\begin{aligned}\textcircled{1} (a+b)(a-b) &= a^2 - b^2 \\ \textcircled{2} (x-5)(x+5) &= x^2 - 25\end{aligned}$$

$$\begin{aligned}\textcircled{3} (y+\frac{1}{7})(y-\frac{1}{7}) &= y^2 - \frac{1}{49} \\ \textcircled{4} (2+x)(2-x) &= 4 - x^2\end{aligned}$$

P18

問

(公式①) を使、2 展開 しなす

$$\begin{aligned}& \underbrace{(2x+1)}_A \underbrace{(2x+3)}_A \\ &= (A+1)(A+3) \\ &= A^2 + 4A + 3 \\ &= (2x)^2 + 4 \times 2x + 3 \\ &= 4x^2 + 8x + 3\end{aligned}$$

★ $2x=A$ と置き換える.★ A を $2x$ に戻す.

問6

$$\begin{aligned}\textcircled{1} (3x-4)(3x-2) &= (A-4)(A-2) \\ &= A^2 - 6A + 8 \\ &= (3x)^2 - 6 \times 3x + 8 \\ &= 9x^2 - 18x + 8\end{aligned}$$

$$\begin{aligned}\textcircled{2} (-4a+3)(-4a-6) &= (A+3)(A-6) \\ &= A^2 - 3A - 18 \\ &= (-4a)^2 - 3 \times (-4a) - 18 \\ &= 16a^2 + 12a - 18\end{aligned}$$

(154)

$$\begin{aligned}(2x-3y)^2 &= (X-A)^2 \\ &= X^2 - 2AX + A^2 \\ &= (2x)^2 - 2 \times 3y \times 2x + (3y)^2 \\ &= 4x^2 - 12xy + 9y^2\end{aligned}$$

★ $2x=X, 3y=A$

問7

$$\begin{aligned}\textcircled{1} (5x+2)^2 &= (X+2)^2 \\ &= X^2 + 4X + 4 \\ &= (5x)^2 + 4 \times 5x + 4 \\ &= 25x^2 + 20x + 4\end{aligned}$$

$$\begin{aligned}\textcircled{2} (3a-5b)^2 &= (X-A)^2 \\ &= X^2 - 2AX + A^2 \\ &= (3a)^2 - 2 \times 5b \times 3a + (5b)^2 \\ &= 9a^2 - 30ab + 25b^2\end{aligned}$$

$$\begin{aligned}\textcircled{3} (6x+7)(6x-7) &= 36x^2 - 49 \\ \textcircled{4} (7x-4y)(7x+4y) &= 49x^2 - 16y^2\end{aligned}$$