

展開

次の式を計算しなさい。

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

$$\begin{aligned} & x^2 - 2x - 15 + (x^2 - 6x + 9) \\ & = \underline{2x^2 - 8x - 6} \end{aligned}$$

(2) $(x+5)(x+8) - (x+7)(x+2)$

$$\begin{aligned} & x^2 + 13x + 40 - (x^2 + 9x + 14) \\ & = \underline{x^2 + 4x + 26} \end{aligned}$$

(3) $(x-8)(x+8) + (x+8)^2$

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

(4) $(x+6)^2 - (x+5)(x-5)$

$$\begin{aligned} & x^2 + 12x + 36 - (x^2 - 25) \\ & = \underline{12x + 61} \end{aligned}$$

(5) $(x+3y)(x-4y) - (x+6y)^2$

$$\begin{aligned} & x^2 - xy - 12y^2 - (x^2 + 12xy + 36y^2) \\ & = \underline{-13xy - 48y^2} \end{aligned}$$

例(4) 4-2

(6) $(-3x + 5y)(3x + 5y) + (x + 3y)^2$

$$-9x^2 + 25y^2 + (x^2 + 6xy + 9y^2)$$

$$= \underline{-8x^2 + 6xy + 34y^2}$$

(7) $(x - y)(y + x) + 2(x + 3y)(x - 4y)$

$$x^2 - y^2 + 2(x^2 - xy - 12y^2)$$

$$= x^2 - y^2 + 2x^2 - 2xy - 24y^2$$

$$= \underline{3x^2 - 2xy - 25y^2}$$

(8) $(x - 5)(x - 3) - 3(x - 1)(x - 5)$

$$x^2 - 8x + 15 - 3(x^2 - 6x + 5)$$

$$= x^2 - 8x + 15 - 3x^2 + 18x - 15$$

$$= \underline{-2x^2 + 10x}$$

(9) $(x - y + 5)(x - y - 7) - (x - y)^2$

$$(x - y)^2 - 2(x - y) - 35 - (x^2 - 2xy + y^2)$$

$$= x^2 - 2xy + y^2 - 2x + 2y - 35 - x^2 + 2xy - y^2$$

$$= \underline{-2x + 2y - 35}$$

$(x - y)^2 - 2(x - y) - 35 - (x - y)^2$ での $(x - y)^2$ が
 → 消えます
 長引く = 何が?

(10) $(x + y + 4)(x + y - 4) + 2(x + y)^2$

$$(x + y)^2 - 16 + 2(x + y)^2 \rightarrow \text{展開してもいい}$$

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

$$= 3(x^2 + 2xy + y^2) - 16$$

$$= \underline{3x^2 + 6xy + 3y^2 - 16}$$