

式の展開

年 組 名前

/12

■ 次の式を計算しなさい。

① $-2(5a+2)+(a-8)^2$

② $-9(2-a)+(a-9)(a+2)$

③ $2(a+5b)^2+(a+6b)(a+5b)$

④ $(x-4y)(x+7y)-(x-4y)(x-9y)$

⑤ $(x+1)(x-2)-9(x+7)$

⑥ $x(x+9y)+2(x-9y)(x-y)$

⑦ $(a-4)(a+6)+7(5a-3)$

⑧ $(a+7)^2+(a+1)(a+8)$

⑨ $(x+7)(x+6)-3(x-4)^2$

⑩ $a(a-2)+(a+8)(a+3)$

⑪ $(a+3)(a-5)+7(a+1)(a+9)$

⑫ $(a+6)(a-6)+(a-8)(a-2)$

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■ 次の式を計算しなさい。

① $-2(5a+2)+(a-8)^2$

$$\begin{aligned} &= -2(5a+2)+(a^2-16a+64) \\ &= -10a-4+a^2-16a+64 \\ &= a^2-26a+60 \end{aligned}$$

② $-9(2-a)+(a-9)(a+2)$

$$\begin{aligned} &= -9(2-a)+(a^2-7a-18) \\ &= -18+9a+a^2-7a-18 \\ &= a^2+2a-36 \end{aligned}$$

③ $2(a+5b)^2+(a+6b)(a+5b)$

$$\begin{aligned} &= 2(a^2+10ab+25b^2)+(a^2+11ab+30b^2) \\ &= 2a^2+20ab+50b^2+a^2+11ab+30b^2 \\ &= 3a^2+31ab+80b^2 \end{aligned}$$

④ $(x-4y)(x+7y)-(x-4y)(x-9y)$

$$\begin{aligned} &= (x^2+3xy-28y^2)-(x^2-13xy+36y^2) \\ &= x^2+3xy-28y^2-x^2+13xy-36y^2 \\ &= 16xy-64y^2 \end{aligned}$$

⑤ $(x+1)(x-2)-9(x+7)$

$$\begin{aligned} &= (x^2-x-2)-9(x+7) \\ &= x^2-x-2-9x-63 \\ &= x^2-10x-65 \end{aligned}$$

⑥ $x(x+9y)+2(x-9y)(x-y)$

$$\begin{aligned} &= (x^2+9xy)+2(x^2-10xy+9y^2) \\ &= x^2+9xy+2x^2-20xy+18y^2 \\ &= 3x^2-11xy+18y^2 \end{aligned}$$

⑦ $(a-4)(a+6)+7(5a-3)$

$$\begin{aligned} &= (a^2+2a-24)+7(5a-3) \\ &= a^2+2a-24+35a-21 \\ &= a^2+37a-45 \end{aligned}$$

⑧ $(a+7)^2+(a+1)(a+8)$

$$\begin{aligned} &= (a^2+14a+49)+(a^2+9a+8) \\ &= a^2+14a+49+a^2+9a+8 \\ &= 2a^2+23a+57 \end{aligned}$$

⑨ $(x+7)(x+6)-3(x-4)^2$

$$\begin{aligned} &= (x^2+13x+42)-3(x^2-8x+16) \\ &= x^2+13x+42-3x^2+24x-48 \\ &= -2x^2+37x-6 \end{aligned}$$

⑩ $a(a-2)+(a+8)(a+3)$

$$\begin{aligned} &= (a^2-2a)+(a^2+11a+24) \\ &= a^2-2a+a^2+11a+24 \\ &= 2a^2+9a+24 \end{aligned}$$

⑪ $(a+3)(a-5)+7(a+1)(a+9)$

$$\begin{aligned} &= (a^2-2a-15)+7(a^2+10a+9) \\ &= a^2-2a-15+7a^2+70a+63 \\ &= 8a^2+68a+48 \end{aligned}$$

⑫ $(a+6)(a-6)+(a-8)(a-2)$

$$\begin{aligned} &= (a^2-36)+(a^2-10a+16) \\ &= a^2-36+a^2-10a+16 \\ &= 2a^2-10a-20 \end{aligned}$$