

多項式11

組 番 氏名 _____

<いろいろな式の展開2>

問1 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} \quad & (3x-4)(2x+3) \\ &= 6x^2+9x-8x-12 \\ &= 6x^2+x-12 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & (5a+2)(3a-1) \\ &= 15a^2-5a+6a-2 \\ &= 15a^2+a-2 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & \left(\frac{1}{3}a+4\right)\left(\frac{1}{2}a-3\right) \\ &= \frac{1}{6}a^2-a+2a-12 \\ &= \frac{1}{6}a^2+a-12 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & (-4b-2)(-3b+5) \\ &= 12ab-20b+6b-10 \\ &= 12ab-14b-10 \end{aligned}$$

問2 次の式を展開しなさい。

$$\begin{aligned} \textcircled{1} \quad & (3a+2b)^2 \\ &= 9a^2+12ab+4b^2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & (5a-4b)^2 \\ &= 25a^2-40ab+16b^2 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & \left(\frac{2}{3}a-3b\right)^2 \\ &= \frac{4}{9}a^2-4ab+9b^2 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & \left(2x-\frac{3}{2}y\right)^2 \\ &= 4x^2-6xy+\frac{9}{4}y^2 \end{aligned}$$

問3 次の式を計算しなさい。

$$\begin{aligned} \textcircled{1} \quad & (x-2)^2-(x-4)(x+1) \\ &= (x^2-4x+4)-(x^2-3x-4) \\ &= x^2-4x+4-x^2+3x+4 \\ &= -x+8 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & 2(x+1)(x-2)-(x-3)(x-2) \\ &= 2(x^2-x-2)-(x^2-5x+6) \\ &= 2x^2-2x-4-x^2+5x-6 \\ &= x^2+3x-10 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & 2(a-1)^2-(2a-1)^2 \\ &= 2(a^2-2a+1)-(4a^2-4a+1) \\ &= 2a^2-4a+2-4a^2+4a-1 \\ &= -2a^2+1 \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & (x-4)^2-(x+4)(x-4) \\ &= x^2-8x+16-(x^2-16) \\ &= x^2-8x+16-x^2+16 \\ &= -8x+32 \end{aligned}$$