

1 次の式を展開しなさい。

① $(x+2)(x+6)$

② $(x+5)^2$

③ $(x-4)^2$

④ $(x+3)(x-3)$

⑤ $(x+7)^2$

⑥ $(x-9)(x+6)$

⑦ $(x+1)(x-1)$

⑧ $(x+5)(x-2)$

⑨ $(x+0.7)^2$

⑩ $(x+0.4)(x-0.4)$

⑪ $\left(x - \frac{1}{3}\right)^2$

⑫ $\left(x + \frac{3}{4}\right)\left(x - \frac{3}{4}\right)$

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

$$\begin{aligned} \textcircled{2} \quad & (x+5)^2 \\ & = x^2 + 2 \times 5 \times x + 5^2 \\ & = x^2 + 10x + 25 \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & (x-4)^2 \\ & = x^2 - 2 \times 4 \times x + 4^2 \\ & = x^2 - 8x + 16 \end{aligned}$$

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

$$\begin{aligned} \textcircled{5} \quad & (x+7)^2 \\ & = x^2 + 2 \times 7 \times x + 7^2 \\ & = x^2 + 14x + 49 \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & (x-9)(x+6) \\ & = x^2 + \{(-9) + 6\}x + (-9) \times 6 \\ & = x^2 - 3x - 54 \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad & (x+1)(x-1) \\ & = x^2 - 1^2 \\ & = x^2 - 1 \end{aligned}$$

$$\begin{aligned} \textcircled{8} \quad & (x+5)(x-2) \\ & = x^2 + \{5 + (-2)\}x + 5 \times (-2) \\ & = x^2 + 3x - 10 \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad & (x+0.7)^2 \\ & = x^2 + 2 \times 0.7 \times x + 0.7^2 \\ & = x^2 + 1.4x + 0.49 \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad & (x+0.4)(x-0.4) \\ & = x^2 - 0.4^2 \\ & = x^2 - 0.16 \end{aligned}$$

$$\begin{aligned} \textcircled{11} \quad & \left(x - \frac{1}{3}\right)^2 \\ & = x^2 - 2 \times \left(\frac{1}{3}\right) \times x + \left(\frac{1}{3}\right)^2 \\ & = x^2 - \frac{2}{3}x + \frac{1}{9} \end{aligned}$$

$$\begin{aligned} \textcircled{12} \quad & \left(x + \frac{3}{4}\right) \left(x - \frac{3}{4}\right) \\ & = x^2 - \left(\frac{3}{4}\right)^2 \\ & = x^2 - \frac{9}{16} \end{aligned}$$