

展開・因数分解のまとめ

____年 ____組 名前

/17

■ 次の式を計算しなさい。

① $(a+8b) \times 8b$

② $(28a^2+32ab) \div 4a$

■ 次の式を展開しなさい。

③ $(5-m)(m-3)$

④ $(b+5)(b-5)$

⑤ $(y-1)(y-6)$

⑥ $(x-2)^2$

⑦ $(4+x)(9+y)$

■ 次の式を因数分解しなさい。

⑧ $y^2+14y+49$

⑨ $49a^2-64$

⑩ a^2-4a-5

⑪ $4s^2+44s+72$

■ 次の式を展開しなさい。

⑫ $(2x+1)(2y+x+3)$

⑬ $(x-y-3)(x-y+5)$

⑭ $(m-n-1)^2$

■ 次の値を、因数分解や式の展開の考え方をういて求めなさい。

⑮ 63^2-13^2

⑯ 58×42

⑰ 17^2

■ 次の式を計算しなさい。

$$\begin{aligned} \textcircled{1} (a+8b) \times 8b \\ = 8ab + 64b^2 \end{aligned}$$

$$\begin{aligned} \textcircled{2} (28a^2 + 32ab) \div 4a \\ = 7a + 8b \end{aligned}$$

■ 次の式を展開しなさい。

$$\begin{aligned} \textcircled{3} (5-m)(m-3) \\ = -m^2 + 8m - 15 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (b+5)(b-5) \\ = b^2 - 25 \end{aligned}$$

$$\begin{aligned} \textcircled{5} (y-1)(y-6) \\ = y^2 - 7y + 6 \end{aligned}$$

$$\begin{aligned} \textcircled{6} (x-2)^2 \\ = x^2 - 4x + 4 \end{aligned}$$

$$\begin{aligned} \textcircled{7} (4+x)(9+y) \\ = 36 + 4y + 9x + xy \end{aligned}$$

■ 次の式を因数分解しなさい。

$$\begin{aligned} \textcircled{8} y^2 + 14y + 49 \\ = (y+7)^2 \end{aligned}$$

$$\begin{aligned} \textcircled{9} 49a^2 - 64 \\ = (7a-8)(7a+8) \end{aligned}$$

$$\begin{aligned} \textcircled{10} a^2 - 4a - 5 \\ = (a-5)(a+1) \end{aligned}$$

$$\begin{aligned} \textcircled{11} 4s^2 + 44s + 72 \\ = 4(s^2 + 11s + 18) \\ = 4(s+9)(s+2) \end{aligned}$$

■ 次の式を展開しなさい。

$$\begin{aligned} \textcircled{12} (2x+1)(2y+x+3) \\ = 2x^2 + 4xy + 7x + 2y + 3 \end{aligned}$$

$$\begin{aligned} \textcircled{13} (x-y-3)(x-y+5) \\ x-y = A \text{ とおくと} \\ (A-3)(A+5) \\ = A^2 + 2A - 15 \\ = (x-y)^2 + 2(x-y) - 15 \\ = x^2 - 2xy + y^2 + 2x - 2y - 15 \end{aligned}$$

$$\begin{aligned} \textcircled{14} (m-n-1)^2 \\ m-n = X \text{ とおくと} \\ (X-1)^2 \\ = X^2 - 2X + 1 \\ = (m-n)^2 - 2(m-n) + 1 \\ = m^2 - 2mn + n^2 - 2m + 2n + 1 \end{aligned}$$

■ 次の値を、因数分解や式の展開の考え方をを用いて求めなさい。

$$\begin{aligned} \textcircled{15} 63^2 - 13^2 \\ = (63+13) \times (63-13) \\ = 76 \times 50 \\ = 3800 \end{aligned}$$

$$\begin{aligned} \textcircled{16} 58 \times 42 \\ = (50+8) \times (50-8) \\ = 50^2 - 8^2 \\ = 2500 - 64 \\ = 2436 \end{aligned}$$

$$\begin{aligned} \textcircled{17} 17^2 \\ = (20-3)^2 \\ = 400 - 120 + 9 \\ = 289 \end{aligned}$$