

式の計算の利用 解答と解説

1 解答 (1) 2496 (2) 2601 (3) 160 (4) 2000

$$\begin{aligned}(1) \quad 52 \times 48 &= (50 + 2)(50 - 2) \\ &= 50^2 - 2^2 \\ &= 2500 - 4 \\ &= 2496\end{aligned}$$

$$\begin{aligned}(2) \quad 51^2 &= (50 + 1)^2 \\ &= 50^2 + 2 \times 1 \times 50 + 1^2 \\ &= 2500 + 100 + 1 \\ &= 2601\end{aligned}$$

$$\begin{aligned}(3) \quad 22^2 - 18^2 &= (22 + 18)(22 - 18) \\ &= 40 \times 4 \\ &= 160\end{aligned}$$

$$\begin{aligned}(4) \quad 105^2 - 95^2 &= (105 + 95)(105 - 95) \\ &= 200 \times 10 \\ &= 2000\end{aligned}$$

2 解答 (1) 200 (2) 14 (3) 4

$$\begin{aligned}(1) \quad x^2 + 2x - 24 &= (x + 6)(x - 4) \\ \text{よって, 求める式の値は} \\ (14 + 6)(14 - 4) &= 20 \times 10 \\ &= 200\end{aligned}$$

$$\begin{aligned}(2) \quad x^2 - y^2 &= (x + y)(x - y) \\ \text{よって, 求める式の値は} \\ (5.7 + 4.3)(5.7 - 4.3) &= 10 \times 1.4 \\ &= 14\end{aligned}$$

$$\begin{aligned}(3) \quad x^2 - 2xy + y^2 &= (x - y)^2 \\ \text{よって, 求める式の値は} \\ \left(\frac{5}{3} + \frac{1}{3}\right)^2 &= 2^2 \\ &= 4\end{aligned}$$

3 解答 20

$$\begin{aligned}(x - 1)(x + 3) - (x - 3)(x - 5) &= x^2 + 2x - 3 - (x^2 - 8x + 15) \\ &= 10x - 18 \\ \text{よって, 求める式の値は} \quad 10 \times 3.8 - 18 &= 38 - 18 \\ &= 20\end{aligned}$$