

高校入試対策 計算総合

NO.10

名前	
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/9 点

1 次の計算をしなさい。

$$\textcircled{1} \quad -9 + 8 \div 4$$

$$\textcircled{2} \quad -3 + (-14 - 4) \div 6$$

$$\textcircled{3} \quad 8(7a + 5) - 4(q - a)$$

$$\textcircled{4} \quad 12ab^3 \div (-4ab^2) \times (-a^2)$$

$$\textcircled{5} \quad (\sqrt{6} - 2)(\sqrt{3} + \sqrt{2}) + \frac{6}{\sqrt{2}}$$

$$\textcircled{6} \quad (2x + 1)^2 + 3(x - 1)(x + 1)$$

2 次の方程式を解きなさい

$$\textcircled{1} \quad 4x + 9 = 3(x + 5)$$

$$\textcircled{2} \quad \begin{cases} y = -2x + 1 \\ 3x - 2y = 5 \end{cases}$$

$$\textcircled{3} \quad x(x - 3) = 2(x + 7)$$

解答

1

$$\textcircled{1} \quad -q + 2 = -7$$

$$\textcircled{2} \quad -3 + (-18) \div 6 = -3 - 3 = -6$$

$$\begin{aligned}\textcircled{3} \quad & 56a + 40 - 36 + 4a \\ & = 60a + 4\end{aligned}$$

$$\begin{aligned}\textcircled{4} \quad & \frac{12ab^3 \times a^2}{4a^2b^2} \\ & = 3a^2b\end{aligned}$$

$$\begin{aligned}\textcircled{5} \quad & \sqrt{18} - 2\sqrt{3} + \sqrt{12} - 2\sqrt{2} + \frac{6\sqrt{2}}{2} \\ & = 3\sqrt{2} - 2\sqrt{3} + 2\sqrt{3} - 2\sqrt{2} + 3\sqrt{2} \\ & = 4\sqrt{2}\end{aligned}$$

$$\begin{aligned}\textcircled{6} \quad & 4x^2 + 4x + 1 \\ & \quad + 3(x^2 - 1) \\ & = 4x^2 + 4x + 1 + 3x^2 - 3 \\ & = 7x^2 + 4x - 2\end{aligned}$$

2

$$\textcircled{1} \quad 4x + q = 3x + 15$$

$$x = 6$$

$$\textcircled{2} \quad \begin{cases} y = -2x + 1 & \cdots \textcircled{1} \\ 3x - 2y = 5 & \cdots \textcircled{2} \end{cases}$$

①を②へ代入

$$\begin{aligned}3x + 2(-2x + 1) &= 5 \\ 3x + 4x - 2 &= 5 \\ 7x &= 7 \\ x &= 1\end{aligned}$$

x = 1 を②へ代入

$$\begin{aligned}3 - 2y &= 5 \\ -2y &= 2 \\ y &= -1 \quad x = 1 \quad y = -1\end{aligned}$$

$$\begin{aligned}\textcircled{3} \quad & x^2 - 3x = 2x + 14 \\ & x^2 - 5x - 14 = 0 \\ & (x + 2)(x - 7) = 0 \quad x = -2, 7\end{aligned}$$