

高校入試対策 計算総合

NO.9

名前

/ 9 点

1 次の計算をなさい。

① $-2^2 \times \frac{1}{12}$

② $(-8)^2 \div 16 \times (-2)$

③ $\frac{x+3y}{4} + \frac{7x-5y}{8}$

④ $6x^2 \times (-2y)^2 \div 8xy$

⑤ $\frac{30}{\sqrt{5}} + \sqrt{20}$

⑥ $(3x+1)^2$

2 次の方程式を解きなさい

① $7x+8=3(x-4)$

②
$$\begin{cases} y = x - 3 \\ 3x - 2y = 8 \end{cases}$$

③ $2(x+3) = (x-1)^2$

解答

1

① $-4 \times \frac{1}{12} = -\frac{1}{3}$

② $64 \div 16 \times -2 = -8$

③
$$\frac{2(x + 3y) + (7x - 5y)}{8}$$

$$= \frac{2x + 6y + 7x - 5y}{8}$$

$$= \frac{9x + y}{8}$$

④
$$\frac{6x^2 \times 4y^2}{8xy}$$

$$= 3xy$$

⑤
$$\frac{30\sqrt{5}}{5} + 2\sqrt{5}$$

$$= 6\sqrt{5} + 2\sqrt{5} = 8\sqrt{5}$$

⑥ $9x^2 + 6x + 1$

2

①
$$\begin{aligned} 7x + 8 &= 3x - 12 \\ 4x &= -20 \\ x &= -5 \end{aligned}$$

②
$$\begin{cases} y = x - 3 & \dots ① \\ 3x - 2y = 8 & \dots ② \end{cases}$$

①を②へ代入

$$\begin{aligned} 3x - 2(x - 3) &= 8 \\ 3x - 2x + 6 &= 8 \\ x &= 2 \end{aligned}$$

$x = 2$ を②へ代入

$$\begin{aligned} 6 - 2y &= 8 \\ -2y &= 2 \\ y &= -1 \end{aligned}$$

$x = 2 \quad y = -1$

③
$$\begin{aligned} 2x + 6 &= x^2 - 2x + 1 \\ x^2 - 4x - 5 &= 0 \\ (x + 1)(x - 5) &= 0 \quad x = -1, 5 \end{aligned}$$