高校入試対策　計算総合

NO.10　　名前 [   ]　　　　／9　点

1　次の計算をしなさい。

① $-9 + 8 \div 4$

② $-3 + (-14 - 4) \div 6$

③ $8(7a + 5) - 4(9 - a)$

④ $12ab^3 \div (-4ab^2) \times (-a^2)$

⑤ $(\sqrt{6} - 2)(\sqrt{3} + \sqrt{2}) + \dfrac{6}{\sqrt{2}}$

⑥ $(2x + 1)^2 + 3(x - 1)(x + 1)$

2　次の方程式を解きなさい

① $4x + 9 = 3(x + 5)$

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

③ $x(x - 3) = 2(x + 7)$

解答

1

① $-9 + 2 = -7$

② $-3 + (-18) \div 6 = -3 - 3 = -6$

③ $56a + 40 - 36 + 4a$

$= 60a + 4$

④ $\dfrac{12ab^3 \times a^2}{4ab^2}$

$= 3a^2b$

⑤ $\sqrt{18} - 2\sqrt{3} + \sqrt{12} - 2\sqrt{2} + \dfrac{6\sqrt{2}}{2}$

$= 3\sqrt{2} - 2\sqrt{3} + 2\sqrt{3} - 2\sqrt{2} + 3\sqrt{2}$

$= 4\sqrt{2}$

⑥ $4x^2 + 4x + 1$

$\qquad + 3(x^2 - 1)$

$= 4x^2 + 4x + 1 + 3x^2 - 3$

$= 7x^2 + 4x - 2$

2

① $4x + 9 = 3x + 15$

$\qquad x = 6$

② $\begin{cases} y = -2x + 1 & \cdots① \\ 3x - 2y = 5 & \cdots② \end{cases}$

①を②へ代入

$3x + 2(-2x + 1) = 5$

$3x + 4x - 2 = 5$

$\qquad 7x = 7$

$\qquad x = 1$

$x = 1$ を②へ代入

$3 - 2y = 5$

$-2y = 2$

$y = -1 \qquad\qquad x = 1 \qquad y = -1$

③ $x^2 - 3x = 2x + 14$

$x^2 - 5x - 14 = 0$

$(x + 2)(x - 7) = 0 \qquad x = -2 , 7$