

平方完成 基本

NO.2

名前

/10 点

1 次の にあてはまる数を書き入れなさい。

(1) $x^2 + 4x + \square = (x + \square)^2$

(2) $x^2 - 12x + \square = (x - \square)^2$

(3) $x^2 + 14x + \square = (x + \square)^2$

(4) $x^2 - 36x + \square = (x - \square)^2$

2 次の式を平方の形にするには、どんな数を加えればよいですか。

(1) $x^2 + 2x$

(2) $x^2 - 6x$

(3) $x^2 + 7x$

(4) $x^2 - 9x$

3 次の2次方程式の解き方で、 にあてはまる数を書きなさい。

$$\begin{aligned}
 (1) \quad & x^2 - 6x - 5 = 0 \\
 & x^2 - 6x = 5 \\
 & x^2 - 6x + \square^2 = 5 + \square^2 \\
 & (x - \square)^2 = \square \\
 & x - \square = \pm \sqrt{\square} \\
 & x = \square \pm \sqrt{\square}
 \end{aligned}$$

$$\begin{aligned}
 (2) \quad & x^2 - 4x - 12 = 0 \\
 & x^2 - 4x = 12 \\
 & x^2 - 4x + \square^2 = 12 + \square^2 \\
 & (x - \square)^2 = \square \\
 & x - \square = \pm \square \\
 & x - \square = \square \text{ のとき} \quad x = \square \\
 & x - \square = -\square \text{ のとき} \quad x = \square
 \end{aligned}$$

解答

1

$$(1) \quad x^2 + 4x + \boxed{4} = (x + \boxed{2})^2$$

$$(2) \quad x^2 - 12x + \boxed{36} = (x - \boxed{6})^2$$

$$(3) \quad x^2 + 14x + \boxed{49} = (x + \boxed{7})^2$$

$$(4) \quad x^2 - 24x + \boxed{144} = (x - \boxed{12})^2$$

$$2 (1) \quad 1$$

$$(2) \quad 9$$

$$(3) \quad \left(\frac{7}{2}\right)^2 = \frac{49}{4}$$

$$(4) \quad \left(\frac{9}{2}\right)^2 = \frac{81}{4}$$

3

$$(1) \quad \begin{aligned} x^2 - 6x - 5 &= 0 \\ x^2 - 6x &= 5 \\ x^2 - 6x + \boxed{3}^2 &= 5 + \boxed{3}^2 \\ (x - \boxed{3})^2 &= \boxed{14} \\ x - \boxed{3} &= \pm\sqrt{\boxed{14}} \\ x &= \boxed{3} \pm \sqrt{\boxed{14}} \end{aligned}$$

$$(2) \quad \begin{aligned} x^2 - 4x - 12 &= 0 \\ x^2 - 4x &= 12 \\ x^2 - 4x + \boxed{2}^2 &= 12 + \boxed{2}^2 \\ (x - \boxed{2})^2 &= \boxed{16} \\ x - \boxed{2} &= \pm \boxed{4} \\ x - \boxed{2} &= \boxed{4} \text{ のとき} \quad x = \boxed{6} \\ x - \boxed{2} &= -\boxed{4} \text{ のとき} \quad x = \boxed{-2} \end{aligned}$$