

## 平方完成 基本

NO.1

名前

/10 点

1 次の  にあてはまる数を書き入れなさい。

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

(2)  $x^2 - 6x + \square = (x - \square)^2$

(3)  $x^2 + 8x + \square = (x + \square)^2$

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

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)  $x^2 + 4x$

(2)  $x^2 - 12x$

(3)  $x^2 + 3x$

(4)  $x^2 - 5x$

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。

$$\begin{aligned}
 (1) \quad & x^2 - 4x - 3 = 0 \\
 & x^2 - 4x = 3 \\
 & x^2 - 4x + \square^2 = 3 + \square^2 \\
 & (x - \square)^2 = \square \\
 & x - \square = \pm \sqrt{\square} \\
 & x = \square \pm \sqrt{\square}
 \end{aligned}$$

$$\begin{aligned}
 (2) \quad & x^2 - 2x - 24 = 0 \\
 & x^2 - 2x = 24 \\
 & x^2 - 2x + \square^2 = 24 + \square^2 \\
 & (x - \square)^2 = \square \\
 & x - \square = \pm \square \\
 & x - \square = \square \text{ のとき} \quad x = \square \\
 & x - \square = -\square \text{ のとき} \quad x = \square
 \end{aligned}$$

## 解答

1

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

$$(2) \quad x^2 - 6x + \boxed{9} = (x - \boxed{3})^2$$

$$(3) \quad x^2 + 8x + \boxed{16} = (x + \boxed{4})^2$$

$$(4) \quad x^2 - 12x + \boxed{36} = (x - \boxed{6})^2$$

$$2 (1) \quad 4$$

$$(2) \quad 36$$

$$(3) \quad \left(\frac{3}{2}\right)^2 = \frac{9}{4}$$

$$(4) \quad \left(\frac{5}{2}\right)^2 = \frac{25}{4}$$

3

$$(1) \quad \begin{aligned} x^2 - 4x - 3 &= 0 \\ x^2 - 4x &= 3 \\ x^2 - 4x + \boxed{2}^2 &= 3 + \boxed{2}^2 \\ (x - \boxed{2})^2 &= \boxed{7} \\ x - \boxed{2} &= \pm\sqrt{\boxed{7}} \\ x &= \boxed{2} \pm \sqrt{\boxed{7}} \end{aligned}$$

$$(2) \quad \begin{aligned} x^2 - 2x - 24 &= 0 \\ x^2 - 2x &= 24 \\ x^2 - 2x + \boxed{1}^2 &= 24 + \boxed{1}^2 \\ (x - \boxed{1})^2 &= \boxed{25} \\ x - \boxed{1} &= \pm \boxed{5} \\ x - \boxed{1} &= \boxed{5} \text{ のとき} \quad x = \boxed{6} \\ x - \boxed{1} &= -\boxed{5} \text{ のとき} \quad x = \boxed{-4} \end{aligned}$$