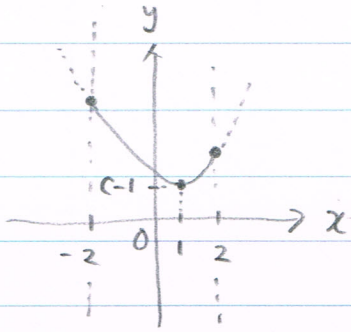


例16 P86

$$\begin{aligned} (1) \quad y &= x^2 - 2x + c \\ &= (x-1)^2 - 1^2 + c \\ &= (x-1)^2 + c - 1 \end{aligned}$$

頂点 $(1, c-1)$

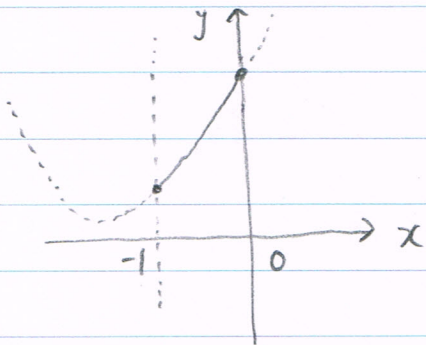


$x = -2$ であるとき最小値をとる

$$\begin{aligned} x = -2 \text{ のとき } y &= (-2)^2 - 2 \cdot (-2) + c = 5 \\ &4 + 4 + c = 5 \\ \therefore c &= -3 \end{aligned}$$

$$\begin{aligned} (2) \quad y &= x^2 + 4x + c \\ &= (x+2)^2 - 2^2 + c \\ &= (x+2)^2 + c - 4 \end{aligned}$$

頂点 $(-2, c-4)$

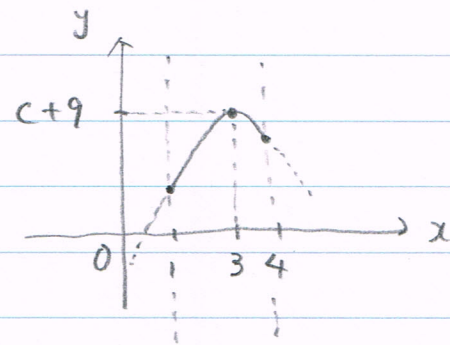


$x = -1$ であるとき最小値をとる

$$\begin{aligned} x = -1 \text{ のとき } y &= (-1)^2 + 4 \cdot (-1) + c = -1 \\ &1 - 4 + c = -1 \\ \therefore c &= 2 \end{aligned}$$

$$\begin{aligned} (3) \quad y &= -x^2 + 6x + c \\ &= -(x^2 - 6x) + c \\ &= -\{(x-3)^2 - 3^2\} + c \\ &= -(x-3)^2 + 3^2 + c \\ &= -(x-3)^2 + c + 9 \end{aligned}$$

頂点 $(3, c+9)$



$x = 3$ であるとき最大値をとる

$$\begin{aligned} x = 3 \text{ のとき } y &= -3^2 + 6 \cdot 3 + c = -3 \\ &-9 + 18 + c = -3 \\ \therefore c &= -12 \end{aligned}$$