

21.09-1

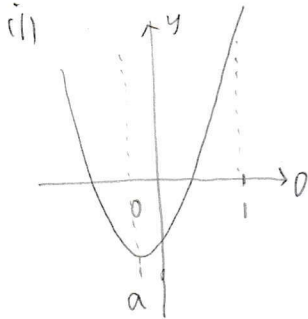
(1) $y = 2x^2 - 4ax$ ($0 \leq x \leq 1$) の最小値を、次の3つの場合で求めなさい。

(i) $a < 0$

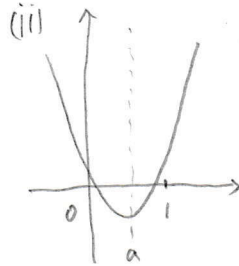
(ii) $0 \leq a \leq 1$

(iii) $1 < a$

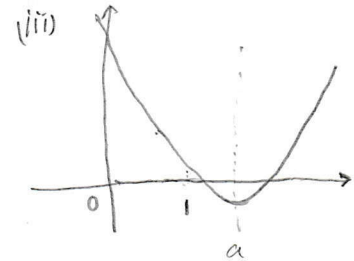
$$y = 2(x^2 - 2ax) = 2(x-a)^2 - 2a^2$$



$x=0$ のとき最小値 0



$x=a$ のとき最小値 $-2a^2$



$x=1$ のとき最小値 $2-4a$

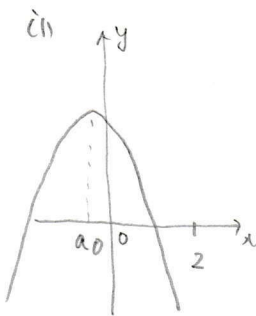
(2) $y = -x^2 + 2ax + 1$ ($0 \leq x \leq 2$) の最大値を、次の3の場合で求めなさい。

(i) $a < 0$

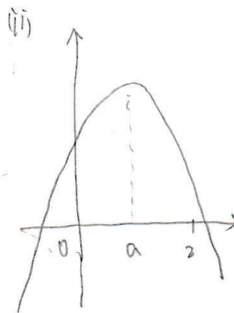
(ii) $0 \leq a \leq 2$

(iii) $2 < a$

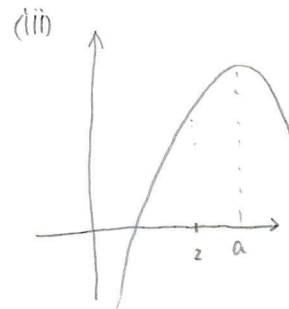
$$y = -(x^2 - 2ax) + 1 = -(x-a)^2 + a^2 + 1$$



$x=0$ のとき最大値 1



$x=a$ のとき最大値 a^2+1



$x=2$ のとき最大値 $4a-3$