

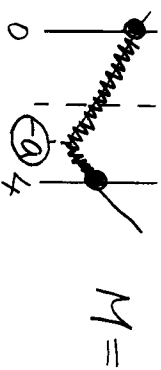
10 $f(x) = x^2 + 2ax + 3a^2 - 4 \quad (0 \leq x \leq 4)$

$= (x+a)^2 + 2a^2 - 4$

(2) 頂点 $(-a, 2a^2 - 4)$, (工件)

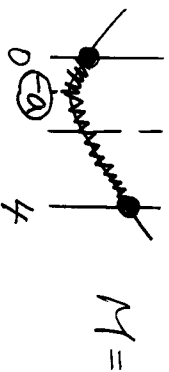
まず、最大値 M を求める。

[1] $0 \leq a < \text{---}$ $0 \leq a < \text{---}$



$M = \text{---}$

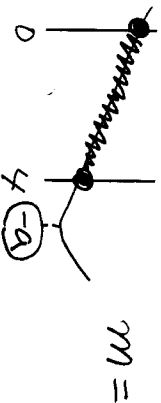
[2] $0 \leq a < \text{---}$ $0 \leq a < \text{---}$ $0 \leq a < \text{---}$ $0 \leq a < \text{---}$



$M = \text{---}$

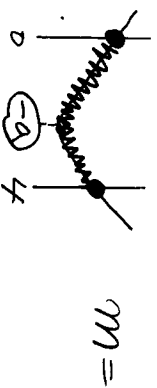
次に、最小値 m を求める。

1) $0 \leq a < \text{---}$ $0 < \text{---}$ $0 \leq a < \text{---}$



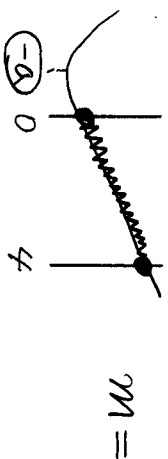
$m = \text{---}$

2) $0 \leq a < \text{---}$ $0 < \text{---}$ $0 \leq a < \text{---}$ $0 \leq a < \text{---}$



$m = \text{---}$

3) $0 \leq a < \text{---}$ $0 < \text{---}$ $0 \leq a < \text{---}$ $0 \leq a < \text{---}$



$m = \text{---}$

(3) $M - m$ の最小値を求める。

解 (3) 7 (1) -2 (工件) $(-a, 2a^2 - 4)$ (1) -2

(2) $3a^2 - 4$ (1) $3a^2 + 8a + 12$ (2) -4

(3) $3a^2 + 8a + 12$ (1) 0 (2) $2a^2 - 4$

(4) $3a^2 - 4$ (1) -2 (2) 4