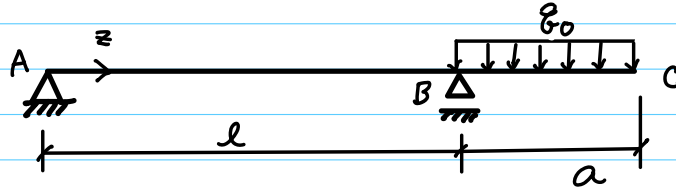
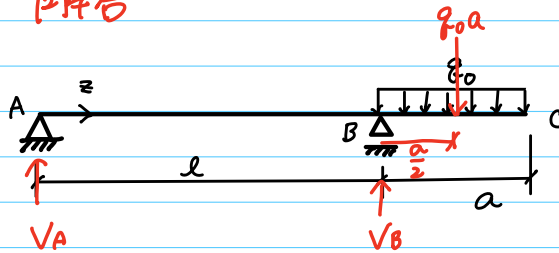


# 小テスト第9回



解答



反力を求める

$$\uparrow \Sigma: V_A + V_B - q_0 a = 0$$

$$\circlearrowleft M_B: V_A \cdot l + q_0 a \cdot \frac{a}{2} = 0$$

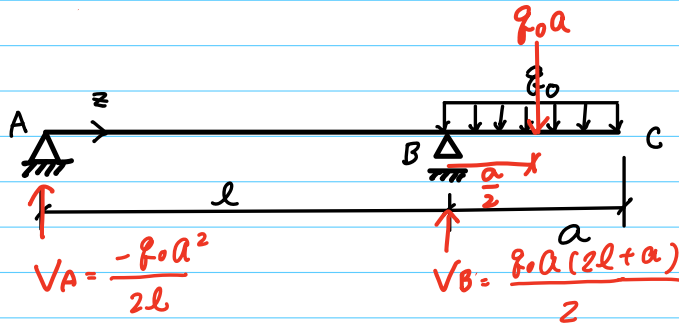
$$V_A l = -\frac{q_0}{2} a^2$$

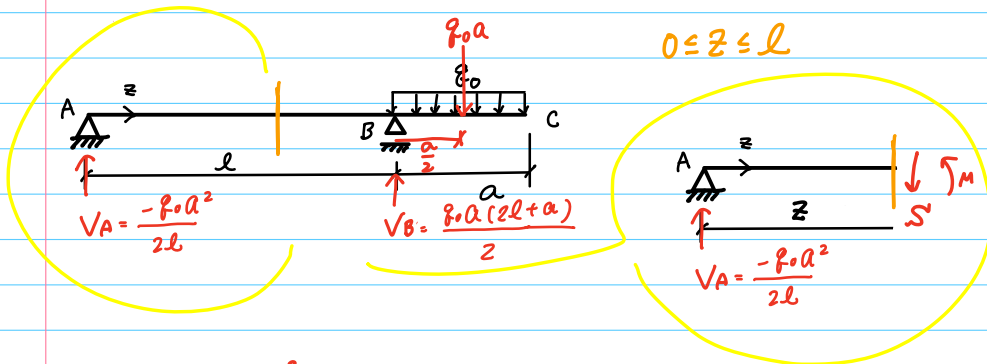
$$V_A = -\frac{q_0 a^2}{2l}$$

$$V_A + V_B = q_0 a$$

$$V_B = q_0 a - \left(-\frac{q_0 a^2}{2l}\right)$$

$$= \frac{2l q_0 a + q_0 a^2}{2l} = \frac{q_0 a (2l + a)}{2l}$$



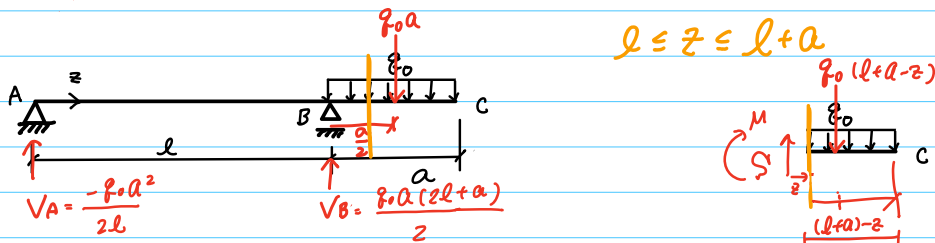


$$\uparrow \Sigma: -\frac{q_0 a^2}{2l} - S = 0$$

$$S(z) = -\frac{q_0 a^2}{2l}$$

$$\downarrow M_z: M(z) - \frac{q_0 a^2}{2l} \cdot z = 0$$

$$M(z) = -\frac{q_0 a^2}{2l} z$$



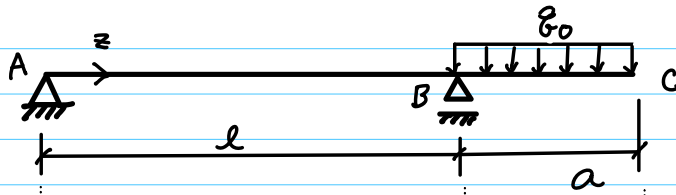
$$\uparrow \Sigma: S' - q_0(l+a-z) = 0$$

$$S(z) = q_0(l+a-z)$$

$$\downarrow M: M(z) + q_0(l+a-z) \cdot \frac{(l+a-z)}{2} = 0$$

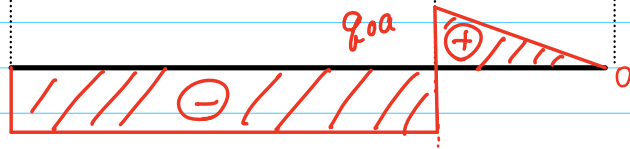
$$M(z) = -\frac{q_0}{2}(l+a-z)^2$$

$$S(z) = \begin{cases} -\frac{q_0 a^2}{2l} & (0 \leq z \leq l) \\ q_0(l+a-z) & (l \leq z \leq l+a) \end{cases} \quad M(z) = \begin{cases} -\frac{q_0 a^2}{2l} z & (0 \leq z \leq l) \\ -\frac{q_0}{2}(l+a-z)^2 & (l \leq z \leq l+a) \end{cases}$$



$S(x)$

$$S(x) = -\frac{q_0 x^2}{2l}$$



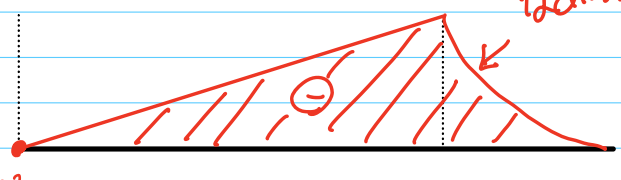
$$S(x) = q_0(l + a - l) = q_0 a$$

$$S(l+a) = q_0(l+a - (l+a)) = 0$$

たわみ曲線

$M(x)$

$$M(x) = -\frac{q_0 x^2}{2l} \cdot 0 = 0$$

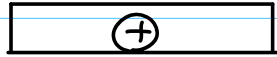


$$M(l) = -\frac{q_0 a^2}{2l} \cdot l = -\frac{q_0 a^2}{2}$$

$$M(l+a) = -\frac{q_0}{2}(l+a-l-a) = 0$$

問3: S図 (上が正) の概形を選びなさい

①



②



③



④



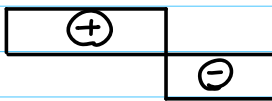
⑤



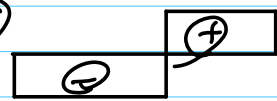
⑥



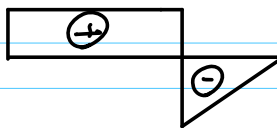
⑦



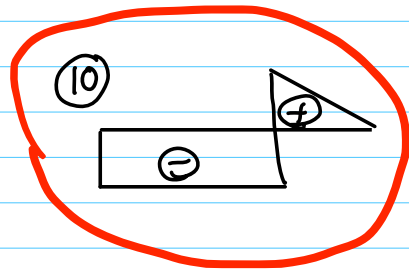
⑧



⑨



⑩



問4: M図(下が正)の概形を選びなさい

