

物 理

I — **解答** (1) $\sqrt{2gh}$ (2) $\frac{1}{2}$ (3) $m_A < m_B$ (4) $\frac{2m_A}{m_A + m_B} \sqrt{2hd}$
 (5) $h \left(\frac{m_A - m_B}{m_A + m_B} \right)^2$ (6) $\frac{1}{3}$ (7) $\frac{2}{3} mgh'$ (8) $\frac{6d' + \sqrt{36d'^2 + 24d'h'}}{3}$ (9) $\pi \sqrt{\frac{3d'}{g}}$

II — **解答** (1) $k \frac{q}{(x-a)^2 + y^2}$ (2) $k \frac{q+Q}{\sqrt{a^2 + y^2}}$ (3) $-q$
 (4) $\frac{2kqa}{(a^2 + y^2)^{\frac{3}{2}}}$ (5) 180° (度) (6) $4\pi k\sigma\Delta S$ (7) $\frac{q}{2\pi a^2}$

III — **解答** (1) $\frac{T_0}{T_1} d_0$ (2) $\left(\frac{T_0}{T_1} d_0 V_1 + M \right) g$ (3) $\frac{d_0 V_1}{d_0 V_1 - M} T_0$
 (4) $\frac{p_1 T_0}{p_0 T_2} d_0$ (5) $\frac{M}{V_1} + \frac{p_1 T_0}{p_0 T_2} d_0$ (6) $\frac{p_1 V_1 T_0}{p_0 V_2 T_2} d_0$ (7) $\left(\frac{V_2}{V_1} \right)^{\gamma-1}$

IV — **解答** (1) $V = \frac{\lambda}{T}$ (2) R (3) $y_P = -A \cos\left(\frac{2\pi t}{T}\right)$ (4) $\frac{2L-x}{\lambda} T$
 (5) $y_2 = -A \sin\left\{2\pi\left(\frac{t}{T} - \frac{2L-x}{\lambda}\right)\right\}$ (6) $y_3 = -2A \sin\left(\frac{2\pi x}{\lambda}\right) \cos\left(\frac{2\pi t}{T}\right)$

(7) 変位 y

