

[I]

- (ア) $\frac{m_2}{m_1+m_2}L$ (イ) $-\frac{m_1}{m_2}$ (ウ) $\frac{m_2}{m_1+m_2}v_0$ (エ) $\frac{v_0}{L}$
 (オ) $\frac{m_1m_2v_0^2}{(m_1+m_2)L}$ (カ) $\frac{m_1m_2v_0^2}{2(m_1+m_2)}$ (キ) $1 + \frac{1}{\sqrt{2}}$ (ク) $\frac{21}{4}\pi + \frac{1}{\sqrt{2}}$
 (a) (2)

[II]

- (ア) $\frac{mv_0}{eB}$ (イ) $\frac{2\pi m}{eB}$ (ウ) $\frac{mv_0^2\Delta B}{2eB}$ (エ) $\frac{mv_0^2\Delta B}{B}$
 (オ) $\frac{\alpha+3}{4}$ (カ) 5 (a) (2)

[III]

- (ア) $\frac{p_1-p_0}{gd}$ (イ) $\frac{p_1(H+h)}{p_0H}T_0$ (ウ) p_1Sh (エ) $\frac{1}{2}(p_0+p_1)Sd$
 (オ) $\frac{3}{2}p_0S(h+d)$ (カ) $\left(\frac{3}{2}p_0h + 2p_0d + p_1h + \frac{1}{2}p_1d\right)S$
 (キ) $\left(\frac{H+h+d}{H}\right)^{\frac{5}{3}}T_0$

解答図 (III-A)

