

1

(1)

(ア) $\sqrt{v_0^2 - gR}$

(イ) $m \frac{v_0^2}{R} - \frac{1}{2} mg$

(ウ) $\sqrt{gR(2 - 3 \cos \alpha)}$

(2)

(エ) $\frac{m}{m + M} v_1$

(オ) $\frac{Mv_1^2}{2(m + M)g}$

(カ) $\frac{2m}{m + M}$

(3)

(キ) $1 - e^2$

(ク) $-mg \sin \theta$

(ケ) $\pi \sqrt{\frac{R}{g}}$

2

(1)

(ア) $\frac{1}{2} Ba^2 \omega$

(イ) $\frac{1}{R}$

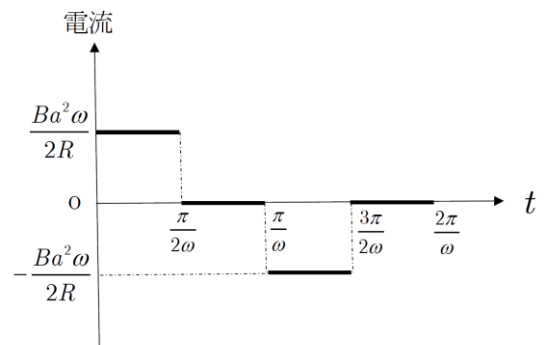
(ウ) $\frac{B^2 a^3 \omega}{2R}$

(エ) $\frac{\pi}{2\omega}$

(オ) 右図

(カ) $\frac{\pi B^2 a^4 \omega}{4R}$

(キ) $\frac{B^2 a^3 \omega}{4R}$



(2)

(ク) $\frac{1}{2} CBa^2 \omega$

(ケ) $\frac{1}{8} CB^2 a^4 \omega^2$

(コ) $CR I$

3

(1)

(ア) $\frac{p_0 SL}{R}$

(イ) $p_0 + \frac{Mg}{S}$

(ウ) $\frac{3}{2}MgL$

(エ) $\frac{2}{3}(p_0 S + Mg)L$

(オ) $\frac{5}{3}(p_0 S + Mg)L$

(2)

(カ) $\frac{5}{3R}(p_0 S + Mg - \frac{1}{3}kL)L$

(キ) $\frac{5}{2}(\frac{1}{3}kL - Mg)L$

(ク) $p_0 + \frac{Mg}{S} - \frac{kL}{S}$

(ケ) $-\frac{2}{3}(p_0 S + Mg - \frac{2}{3}kL)L$