

[I] (ア) $\mu \quad (イ) (\sin \theta - \mu' \cos \theta) g$

(ウ) $\sqrt{2(\sin \theta - \mu' \cos \theta) gL}$

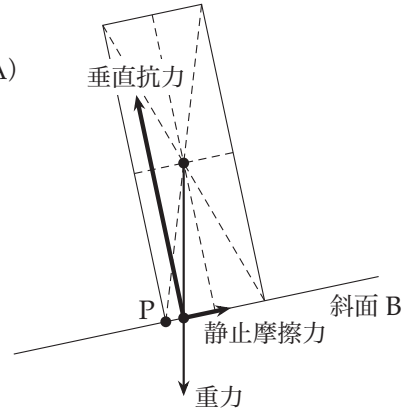
(エ) $\frac{1 - 3 \tan \theta}{2} a \quad (オ) \frac{1}{3}$

(カ) $\sin \theta_1 + \mu \cos \theta_1$

(キ) $\frac{\tan \theta_1 - 2\mu + 1}{2} a$

(ク) $\frac{3 \tan \theta_1 + 1}{2(\tan \theta_1 + \mu)} a$

解答図 (I-A)



[II] (ア) $\frac{h}{\lambda'} \cos \theta + mv \cos \phi \quad (イ) \frac{h}{\lambda'} \sin \theta - mv \sin \phi$

(ウ) $\frac{h^2}{\lambda^2} - \frac{2h^2 \cos \theta}{\lambda \lambda'} + \frac{h^2}{\lambda'^2} \quad (エ) \frac{ch}{\lambda} - \frac{ch}{\lambda'} \quad (オ) \frac{h}{mc} (1 - \cos \theta)$

(カ) $2d \sin \alpha \quad (キ) \frac{h(1 - \cos \theta)}{2mcd \cos \alpha} \quad (ク) 1.2 \times 10^{-12}$

[III] (ア) $\frac{E}{R_1 + r} \quad (イ) R_1 \left(\frac{E}{R_1 + r} \right)^2$

(ウ) $r \quad (エ) \frac{r_V}{R_2 + r_V} R_2 \quad (オ) \frac{R_2}{r_V}$

(カ) $R_2 + r_A \quad (キ) \frac{r_A}{R_2}$

(ク) $\sqrt{r_A r_V}$

解答図 (III-A)

