

Ch1 運動

Exercise Sec.1

01. 65s
02. 3:8
03. 24 公尺
04. 12/19

Exercise Sec.2

01. 4m/s^2
02. (a)(c)
03. 1:3
04. 2.4 km/h
05. 小白(勝利屬於始終堅持的人)
06.
 - (a) 1 : 3
 - (b) 62.5
07.
 - (a) No
 - (b) 8m/s
 - (c) 2m/s^2
 - (d) 6m/s

Exercise Sec.3

01. $n = 8$
02. 100m/s
03. $\sqrt{\frac{a^2+b^2}{2}}$
04. 25m/s
05.
 - (a) 72km/h
 - (b) 7s
 - (c) $10/7\text{m/s}^2$

Exercise Sec.4

01.
(a) 280m
(b) 7s
02. 9s , 264.6m
03. 4s , 64m
04. 4s , 62.72m
05.
(a) 6s
(b) 180m
(c) 6
06.
(a) 3s , 15m
(b) 1:1 , 0.5s , $D_{//}=2.5\text{m}$, $D_{\perp}=1.25\text{m}$
(c) 1:2 , 1s , $v_{//}=5\text{m/s}$, $v_{\perp}=10\text{m/s}$

Exercise Sec.5

01.
(a) 10s
(b) $D_{//}=240\text{m}$, $D_{\perp}=320\text{m}$
02.
(a) $\sqrt{0.6}\text{ s}$
(b) 10
(c) $5\sqrt{0.6}\text{ m}$
03.
(a) 1.4 s
(b) $D_{//}=16.8\text{m}$, $D_{\perp}=12.6\text{m}$
04.
T=6s
D=20m

Exercise Sec.6

01. $2\sqrt{\frac{R}{g_s}}$

Exercise Sec.7

01. B
02. (A)(C)(D)(E)(F)(G)(H)
03. $0.25\pi m^2$
04.
 - (a) $30\sqrt{2} m/s$
 - (b) 150 m
05.
 - (a) $1.6*10^7 m/s^2$
 - (b) $1.6*10^6$
06. $\cos^3\theta_2:\cos^3\theta_1$

Exercise Sec.8

01.
 - (a) $a_{max}=2.5\pi^2 m/s^2, X=-10$
 - (b) $v_8=\pm 3\pi m/s, a_8=-2\pi^2 m/s^2$
 - (c) $v_{-6}=\pm 4\pi m/s, a_{-6}=1.5\pi^2 m/s^2$
02.
 - (a) 0.5s
 - (b) $40\pi m/s$
 - (c) $160\pi^2 m/s^2$
03. 4s
04.
 - (a) $40m/s^2$
 - (b) $\pm 6m$
05. (D)(F)

Exercise Sec.9

01. 慢 8640 秒
02. (E)

Exercise Sec.10

01.
 - (a) 400s
 - (b) 200s
02. $\alpha = 30 \pi / s$
03.
 - (a) 20m/s
 - (b) $80m/s^2$
04. $15m/s^2$
05. A.C.E.F.G
06.
 - (a) 5 (rad)/s
 - (b) $50\pi m/s^2$
 - (c) $6m/s^2$
07. 53°

Exercise Sec.11

01.
 - (a) 可以
 - (b) 1s
 - (c) 不可
 - (d) 14m/s
02.
 - (a) $v_a = 50m/s$ 向右
 - (b) $v_b = 25\sqrt{2}m/s$ 向右偏向上方 45 度
 - (c) $v_c = 25m/s$ 向右偏向下方 60 度
03.
 - (a) 20m/s
 - (b) 後方向前與水平夾 37 度角
04. 39m/s