T5D05 機械常識（機械原理）（107/01/25 八版）

書籍勘誤

P84、85：

原解：

倒數第 6 行起

把(3)代入(4)

$\Rightarrow 21\pi + 4.6875 = \frac{\pi}{2}(3D_6) + \frac{D_6^2}{192}$

$\Rightarrow D_6^2 + 433.54D_6 = 13566.90$ → 904.78

$\therefore D_6 = 14.758$ cm 代入(3) → 14.754

所以 $d_5 = 29.516$ cm → 29.508

再拿其它二個來聯立

$$\frac{\pi}{2}(D_6 + d_5) + \frac{(D_6 - d_5)^2}{4C} = \frac{\pi}{2}(D_4 + d_3) + \frac{(D_4 - d_3)^2}{4C}$$

把 D_6，d_5 和(2)代入

$$\therefore \frac{\pi}{2}(14.758 + 29.516) + \frac{(14.759 - 29.516)^2}{4\times 48}$$

$$= \frac{\pi}{2}(4d_3) + \frac{4d_3^2}{4\times 48}$$

$69.545 + 1.116 = 2\pi d_3 + \frac{4d_3^2}{4\times 48}$

$\Rightarrow 13850 = 1230.88d_3 + d_3^2$

$\Rightarrow d_3 = 11.15$ cm → 10.855

$\therefore D_4 = 3d_3 = 33.45$ cm → 32.566

答：$d_1 = 6$ cm　　$D_2 = 36$ cm

$d_3 = 11.15$ cm → 10.855　　$D_4 = 33.45$ cm → 32.566

$d_5 = 29.516$ cm → 08　　$D_6 = 14.758$ cm → 4

P88

二、種類與速度比

例：圓心距 240 mm，若 $\omega_1 = 200$ rpm，求 R_1，R_2

$\omega_2 = 400$rpm

P92

解：設 A 輪之半徑 R_A、B 輪之半徑 R_B

⑴內接觸

$\therefore R_A - R_B = 30$ ..... ①

$2\pi R_A \times 20 = 2\pi R_B 60$

$\therefore R_A = 3R_B$ ..... ②

聯立①，②

$\therefore 2R_B = 30 \Rightarrow R_A = 15$ cm

而 $R_B = 45$ cm

答：⑴內接觸 $R_A = 15$ cm

$R_B = 45$ cm