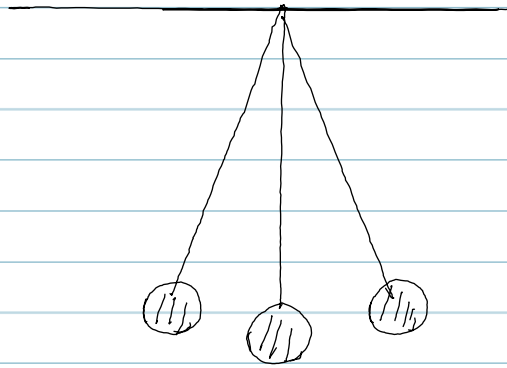


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(1) 單擺的擺長為 100 公分，則擺動週期大約為幾秒？(2) 其週期為擺長 64 公分的單擺的幾倍？(3) 如何利用單擺來測量重力加速度？



$$T = 2\pi \sqrt{\frac{l}{g}}$$

$$= 2 \times 3.14 \times \sqrt{\frac{100}{980}}$$

$$= 2(s)$$

$$\frac{T_1}{T_2} = \frac{2\pi \sqrt{\frac{100}{980}}}{2\pi \sqrt{\frac{64}{980}}} = \sqrt{\frac{100}{64}} = \frac{10}{8} = 1.25 \text{ (倍)}$$

$$\frac{2}{T} = 1.25$$

$$T = \frac{2}{1.25} = 1.6 \text{ (秒)}$$

$$T = 2\pi \sqrt{\frac{l}{g}}$$

$$g = \frac{4\pi^2 l}{T^2} = \frac{4 \times 3.14^2 \times 81}{1.8^2} = 986.96 \text{ (}\frac{m}{s^2}\text{)}$$

45° 海平面

$$g = 9.8 \frac{m}{s^2} = 980 \frac{cm}{s^2}$$