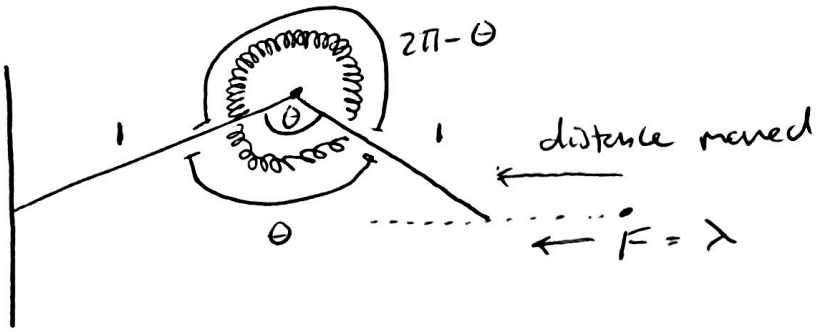

System at rest (i.e solution)

when Work done by force = δ energy in springs

↓

Let k = spring constant
= 1

$\frac{1}{2}(2\pi-\theta)^2 + \frac{1}{2}\theta^2$

with initial energy
of $\frac{1}{2}\pi^2 + \frac{1}{2}\pi^2 = \pi^2$

∴ δ energy

$= \frac{1}{2}(2\pi-\theta)^2 + \frac{1}{2}\theta^2 - \pi^2$

by cosine rule
new "~~big~~ triangle base"
is $\sqrt{2-2\cos\theta}$

so $WD = \lambda\cdot\left[2-\sqrt{2-2\cos\theta}\right]$

$\therefore$ if $\lambda\left[2-\sqrt{2-2\cos\theta}\right] = \frac{1}{2}(2\pi-\theta)^2 + \frac{1}{2}\theta^2 - \pi^2$

a sol^n, i.e let

$F(\lambda,\theta) = \lambda\left[2-\sqrt{2-2\cos\theta}\right) + \pi^2 - \frac{1}{2}(2\pi-\theta)^2 - \frac{1}{2}\theta^2$

$+\pi^2$ so zero if $\theta = 0$