



Mathematics of Avian Bird flu H7 Spread

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Economic Multiplier

$$(1/7)^2 - (1/7) - 1 = -1.122 = v_{\text{escape}}$$

$$\bar{P} = Mv = (M)(11.22) = \cos t$$

$$M(1.122) = \cos 45$$

$$M = 63$$

$$t = KE = 1/2 Mv^2$$

$$= 1/2 (M)(-1.122)^2$$

$$= 62.99 \approx 63$$

$$y = mx + b$$

$$F = (\pi - e)(62.99)$$

$$= 2.667 = \text{Superfroce}$$

Plot of $M = \text{Ln } t$

Hooke's Law

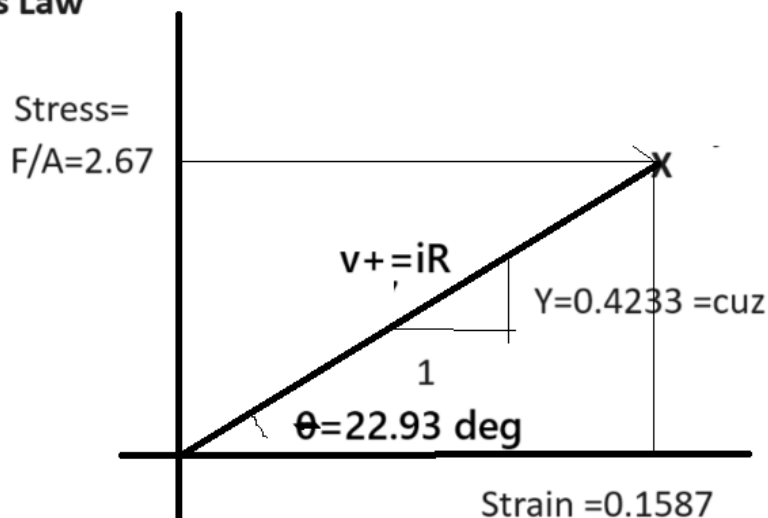


Figure 1 The Superforce and Moment plot

$$\Delta t = (\pi - 1) = 2.14159$$

$$62.99(2.14159) = 13.5$$

$$\begin{aligned} TE &= KE + PE \\ &= \frac{1}{2}Mv^2 + Mc^2 \\ &= 1.5Mc^2 \\ 54 &= 1.5(M)(9) \\ &= t \Delta t M \end{aligned}$$

$$\int 54/M = \int t \Delta t$$

$$54 \int 1/M = t^2/2$$

$$54(\ln M) = t^2/2$$

$$\ln M = 108 t^2$$

$$t = 1111 = 1/c^2 = M$$

So

$$\begin{aligned} \ln t &= \frac{1}{2}Mv^2 \\ M &= \frac{1}{2}Mv^2 \end{aligned}$$

$$2 = v^2$$

$$v = \sqrt{2} = \sin 45 + \cos 45 = \sin t + \cos t = \text{Life vs Death rates}$$

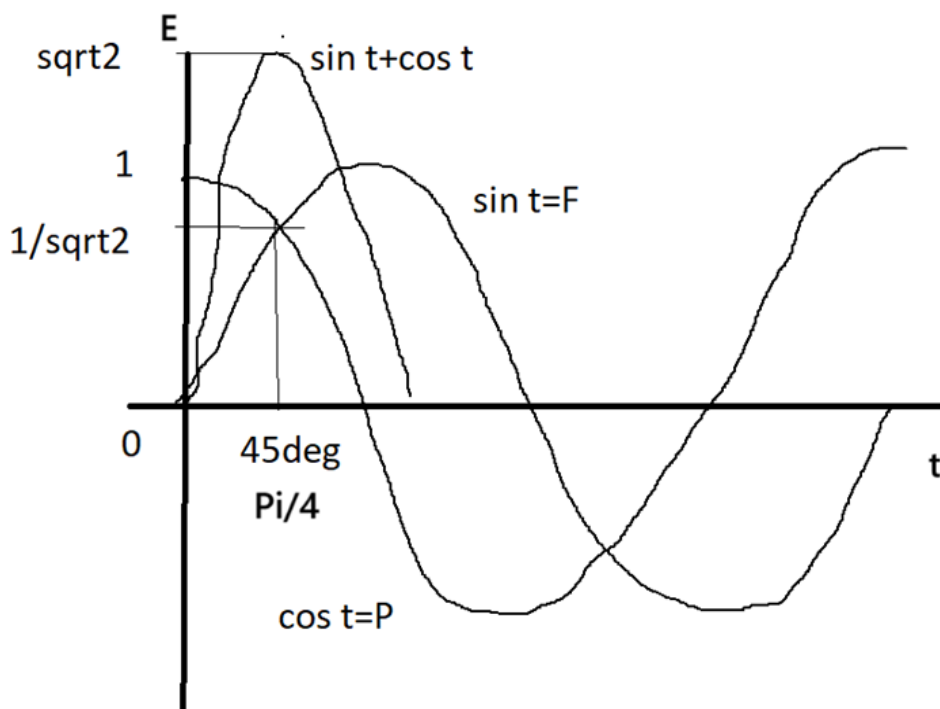


Figure 2 The sin and cos plot shown combined.

$$M = \ln t$$

$$1 = \ln t$$

$$t = e^1$$

$$(e^1)^2 - (e^1) - 1 = 3.67 = 1 + F = E$$

$$1/t = 1 + t$$

$$1 = t + t^2$$

$$t^2 + t - 1 = 0 \quad \delta M \quad dM/dt > 1$$

$$M = 1/81 = 0.012345679$$

$$t = 1/2 M v^2$$

$$18 = 1/2 (4) v^2$$

$$v < 3 = t$$

$$ds/dt = t$$

$$ds = t dt$$

$$s = t^2/2$$

$$s = 16$$

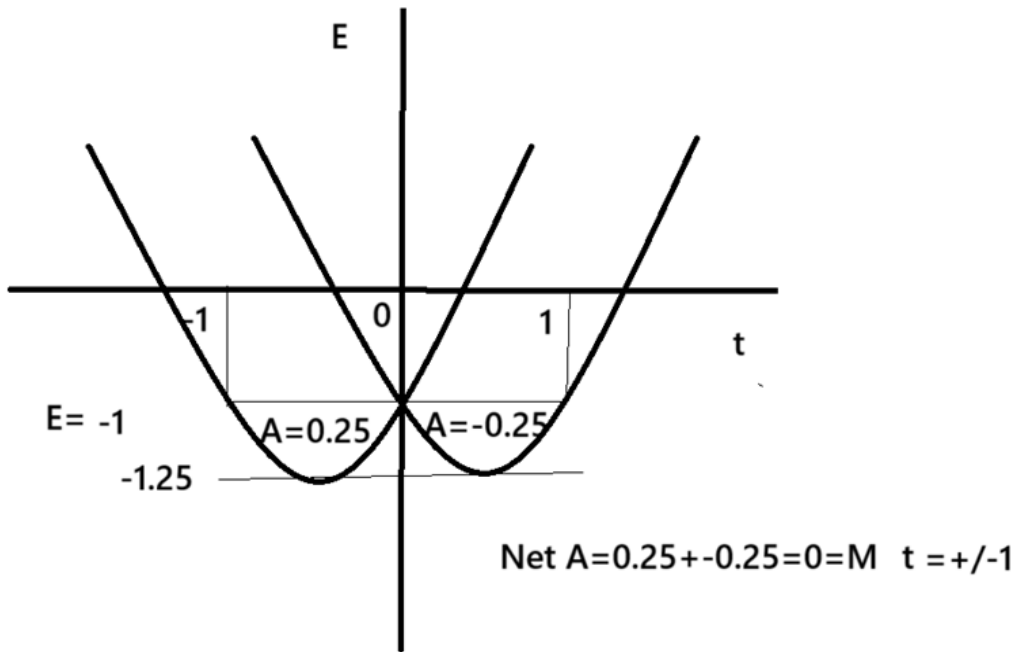


Figure 3 The Dual GMP plots

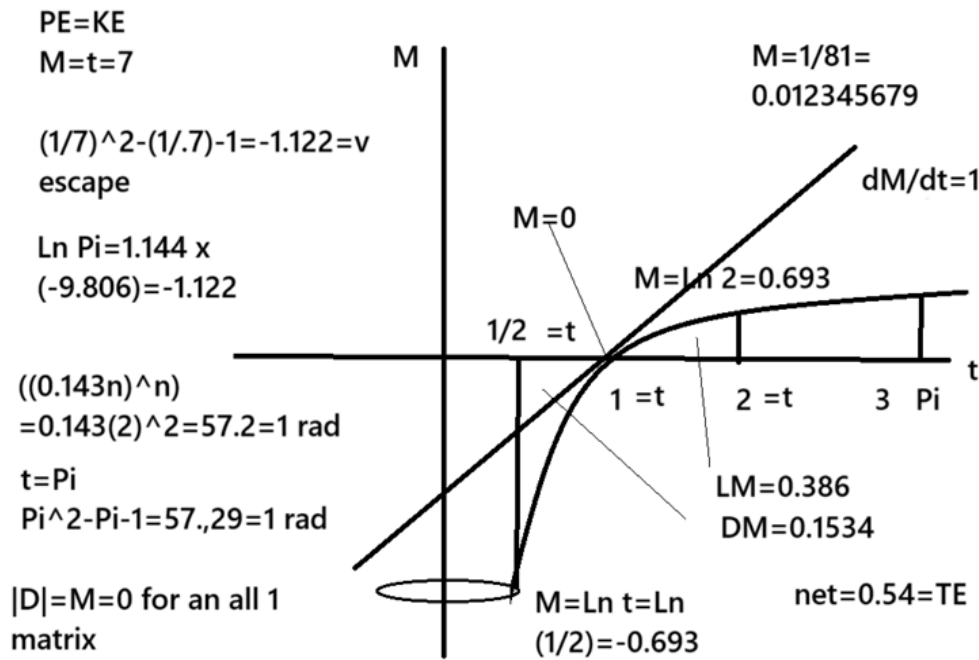


Figure 4 The M=Ln t plot showing critical rate

$$ds/dt=v=\sqrt{2}$$

$$s=E t \sin t$$

$$s=Et^2$$

$$ds/dt=v=\sqrt{2}=dE/dt \cdot 2t^3/3$$

$$dE/dt=2t-1 \text{ GMP}$$

$$dE/dt=\sqrt{2}=v$$

$$dE/dt=\sin 45+\cos 45$$

$$2t-1=\sqrt{2}$$

$$t=1207$$

GMP: $E=-0.75=-1/s=-1/\sqrt{2}=-\sin 45=dcos t/dt=d\bar{P}/dt$ =rate of deaths

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