Physics 200

Semester 1 Formulas, 2017-2018

d=rt [zero acceleration]

**Formulas:**

$$∆x=x-x\_{0}$$

$$v\_{x Ave.}=\frac{∆x}{∆t}$$

$$a=\frac{∆v}{∆t}$$

$$∆x=\frac{1}{2}\left(v\_{x0 }+v\_{x}\right)t$$

$$v\_{x}=v\_{x0 }+at$$

$$∆x=v\_{x0 }t+ \frac{1}{2}at^{2}$$

$$v\_{x}^{2}= v\_{0x}^{2}+2a(∆x)$$

$$∑F=F\_{NET}=ma$$

$$w=mg$$

$$F\_{f}=µF\_{N}$$

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



acentripetal = v2/r Fcentripetal = mv2/r G = 6.67x10-11Nm2/kg2

$F\_{gravity}=G\left(\frac{M\_{1}m\_{1}}{r^{2}}\right)$ $\frac{T\_{A}^{2}}{T\_{B}^{2 }}=\frac{r\_{A}^{3}}{r\_{B}^{3 }}$ Circumference = 2πr w=mg

W=Fd $P=\frac{W}{t}$ Wnet = ΔKE $KE=\frac{1}{2 }mv^{2}$ ΔPE = mgh

KEinitial +PEinitial = KEfinal + PEfinal KEinitial +PEinitial + Wnc = KEfinal + PEfinal

PEspring =$ \frac{1}{2}kx^{2}$ Fspring = kx