Formulas
You need all of these at least 126 times☺

$\vec{A}\cdot\vec{B}=|A||B|\cos\theta$, $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$, $\sin\theta=\frac{o}{h}$, $\sum\vec{F}=m\vec{a}$

$\sin 30°=0.5=\cos 60°, \cos 30°=0.866=\sin 60°$, $\tan 45°=1$

$\ln\frac{1}{50}\cong-3.9, \ln\frac{1}{100}\cong-4.6, \ln\frac{1}{200}\cong-5.3, \ln\frac{1}{300}\cong-5.7, \ln\frac{1}{400}\cong-6, \ln\frac{1}{500}\cong-6.2, \ln\frac{1}{1000}\cong-6.9,$

$\sin 45°=0.707=\cos 45°$, use $g=10\frac{m}{\sec^2}$, $C=2\pi r$, $A=\pi r^2$

$n_1\sin\theta_1=n_2\sin\theta_2$, $n=\frac{c}{v}$, $\sin\theta_c=\frac{n_2}{n_1}$, $n_1\lambda_1=n_2\lambda_2$

$\frac{1}{p}+\frac{1}{i}=\frac{1}{f}$, $M=\frac{h'}{h}=-\frac{i}{p}$, $\frac{1}{f}=(n-1)(\frac{1}{R_1}-\frac{1}{R_2})$

$d\sin\theta=m\lambda$, $y_m=\frac{m\lambda D}{d}$ (small angles), $d\sin\theta=(m+\frac{1}{2})\lambda$

$I = I_0\cos^2(\phi/2)$, $\phi = 2\pi\delta/\lambda = 2\pi\, d(\sin\theta)/\lambda$

$a\sin\theta=p\lambda$, $I=I_0\left(\frac{\sin(\alpha)}{\alpha}\right)^2$, $\alpha=\frac{\pi a\sin\theta}{\lambda}$, $I=I_0\cos^2\beta\left(\frac{\sin(\alpha)}{\alpha}\right)^2$,

$\beta=\frac{\pi d\sin\theta}{\lambda}$, $\theta_{\min}=1.22\frac{\lambda}{D}$, $R=\frac{(\lambda_1+\lambda_2)/2}{(\lambda_1-\lambda_2)}$, $R=Nm$, $I = I_0\cos^2(\theta)$

$$-\frac{\hbar}{2m}\frac{1}{r^2}\frac{\partial}{\partial r}\left(r^2\frac{\partial\psi}{\partial r}\right)-\frac{\hbar}{2m}\frac{1}{r^2}\left[\frac{1}{\sin\theta}\frac{\partial}{\partial\theta}\left(\sin\theta\frac{\partial\psi}{\partial\theta}\right)+\frac{1}{\sin^2\theta}\frac{d^2\psi}{d\phi^2}\right]+U\psi=E\psi$$

$$-\frac{\hbar}{2m}\frac{d^2\psi}{dx^2}+U\psi=E\psi\text{, }-\frac{\hbar}{2m}\frac{\partial^2\psi(x,t)}{\partial x^2}+U(x)\psi(x,t)=i\hbar\frac{\partial\psi(x,t)}{\partial t}$$

$$k^2=\frac{2m(E-U)}{\hbar^2}\text{, }\alpha^2=\frac{2m(U-E)}{\hbar^2}\text{, }\int_{-\infty}^{\infty}|\psi|^2=1$$

$$\Delta t=\Delta t_0\gamma\text{, }L=\frac{L_0}{\gamma}\text{, }\gamma=\frac{1}{\sqrt{1-\beta^2}}\text{, }\beta=\frac{v}{c}\text{, }f=f_0\sqrt{\frac{1-\beta}{1+\beta}}$$

$$x'=\gamma\left(x-vt\right)\text{, }y'=y\text{, }z'=z\text{, }t'=\gamma\left(t-{vx}/{c^2}\right)$$

$$p=\gamma mv\text{, }K=mc^2\left(\gamma-1\right)\text{, }E=\gamma mc^2=mc^2+K\text{,}$$

$$\left(pc\right)^2=2Kmc^2+K^2\text{, }E^2=\left(pc\right)^2+\left(mc^2\right)^2$$

$$E=hf\text{, }hf=K_{\max}+\Phi\text{, }\lambda=\frac{h}{p}\text{, }p=\frac{h}{\lambda}=\hbar k\text{, }E=hf=\hbar\omega$$

$$\Delta x\Delta p\geq\hbar\text{, }\Delta E\Delta t\geq\hbar$$

$$\hbar=\frac{h}{2\pi}=\frac{6.64\times10^{-34}J\cdot s}{2\pi}\text{, }h=6.64\times10^{-34}J\cdot s=4.14\times10^{-15}eV\cdot s$$

$$E_n=-\frac{13.6eV}{n^2}\text{, }N=N_0e^{-\lambda t}\text{, }\lambda=\frac{\ln 2}{T_{1/2}}=\frac{.69}{T_{1/2}}\text{, }R=\lambda N$$