

Some Formulas

- $A = Pe^{rt}$
- $A = P \left(1 + \frac{r}{n}\right)^{nt}$
- $\sin^2 \theta + \cos^2 \theta = 1$
- $\tan^2 \theta + 1 = \sec^2 \theta$
- $\sin \theta = \cos \left(\theta - \frac{\pi}{2}\right)$
- $\sin(-\theta) = -\sin \theta, \cos(-\theta) = \cos \theta, \tan(-\theta) = -\tan \theta$
- $\sin(\alpha \pm \beta) = \sin \alpha \cos \beta \pm \cos \alpha \sin \beta$
- $\cos(\alpha \pm \beta) = \cos \alpha \cos \beta \mp \sin \alpha \sin \beta$
- $\cos \left(\frac{\pi}{2} - \theta\right) = \sin \theta$
- $\sin \left(\frac{\pi}{2} - \theta\right) = \cos \theta$
- $\tan(\alpha + \beta) = \frac{\sin(\alpha + \beta)}{\cos(\alpha + \beta)} = \frac{\tan \alpha + \tan \beta}{1 - \tan \alpha \tan \beta}$
- $\tan(\alpha - \beta) = \frac{\sin(\alpha - \beta)}{\cos(\alpha - \beta)} = \frac{\tan \alpha - \tan \beta}{1 + \tan \alpha \tan \beta}$
- $\sin \frac{\theta}{2} = \pm \sqrt{\frac{1 - \cos \theta}{2}}$
- $\cos \frac{\theta}{2} = \pm \sqrt{\frac{1 + \cos \theta}{2}}$
- $\tan \frac{\theta}{2} = \frac{\sin \frac{\theta}{2}}{\cos \frac{\theta}{2}} = \frac{1 - \cos \theta}{\sin \theta} = \frac{\sin \theta}{1 + \cos \theta}$
- $\sin(2\theta) = 2 \sin \theta \cos \theta$
- $\cos(2\theta) = \cos^2 \theta - \sin^2 \theta = 2 \cos^2 \theta - 1 = 1 - 2 \sin^2 \theta$
- $\tan(2\theta) = \frac{\sin(2\theta)}{\cos(2\theta)} = \frac{2 \tan \theta}{1 - \tan^2 \theta}$
- $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$
- $c^2 = a^2 + b^2 - 2ab \cos C$