$$A = \pi r^{2}$$

$$(x+a)^{n} = \sum_{k=0}^{n} {n \choose k} x^{k} a^{n-k}$$

$$(1+x)^{n} = 1 + \frac{nx}{1!} + \frac{n(n-1)x^{2}}{2!} + \cdots$$

$$f(x) = a_{0} + \sum_{n=1}^{\infty} \left( a_{n} \cos \frac{n\pi x}{L} + b_{n} \sin \frac{n\pi x}{L} \right)$$

$$a^{2} + b^{2} = c^{2}$$

$$x = \frac{-b \pm \sqrt{b^{2} - 4ac}}{2a}$$

$$e^{x} = 1 + \frac{x}{1!} + \frac{x^{2}}{2!} + \frac{x^{3}}{3!} + \cdots, \quad -\infty < x < \infty$$

$$\sin \alpha \pm \sin \beta = 2 \sin \frac{1}{2} (\alpha \pm \beta) \cos \frac{1}{2} (\alpha \mp \beta)$$

$$\cos \alpha + \cos \beta = 2 \cos \frac{1}{2} (\alpha + \beta) \cos \frac{1}{2} (\alpha - \beta)$$

$$\mathbf{r} = \frac{1}{2} \mathbf{a} t^{2} + \mathbf{v}_{0} t + \mathbf{r}_{0}$$

$$A = P \left( 1 + \frac{r}{n} \right)^{nt}$$

$$\exists x \left( \operatorname{Person}(x) \wedge \forall y \left( \operatorname{Time}(y) \to \operatorname{Happy}(x, y) \right) \right)$$

$$\int_{-\infty}^{\infty} e^{-x^2} dx = \left[ \int_{-\infty}^{\infty} e^{-x^2} dx \int_{-\infty}^{\infty} e^{-y^2} dy \right]^{1/2}$$

$$= \left[ \int_{0}^{2\pi} \int_{0}^{\infty} e^{-r^2} r \, dr \, d\theta \right]^{1/2}$$

$$= \left[ \pi \int_{0}^{\infty} e^{-u} \, du \right]^{1/2}$$

$$= \sqrt{\pi}$$

$$\frac{1}{2\pi} \int_{0}^{2\pi} \frac{d\theta}{a + b \sin \theta} = \frac{1}{\sqrt{a^2 - b^2}}$$

$$\begin{pmatrix} U(t) \\ V(t) \\ W(t) \end{pmatrix} = \begin{pmatrix} 1 & 0 & 0 \\ 0 & \cos Rt & -\sin Rt \\ 0 & \sin Rt & \cos Rt \end{pmatrix} \begin{pmatrix} U(0) \\ V(0) \\ W(0) \end{pmatrix}$$

$$|x| = \begin{cases} -x, & x < 0 \\ x, & x \ge 0 \end{cases}$$

$$a(b + c) = ab + ac$$

$$a^n a^m = a^{n+m}$$

$$\sqrt[n]{a^n} = \begin{cases} a, & n \text{ odd} \\ |a|, & n \text{ even} \end{cases}$$

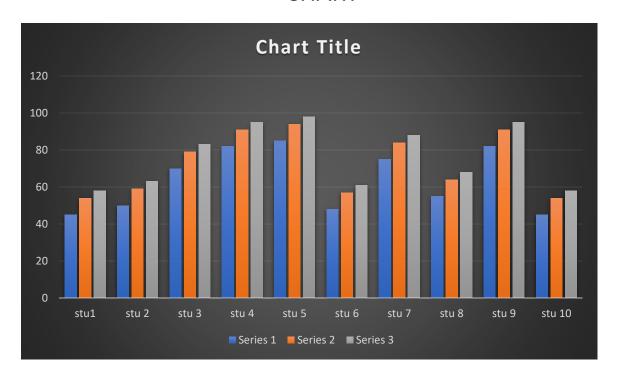
$$\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$$

$$\frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd}$$

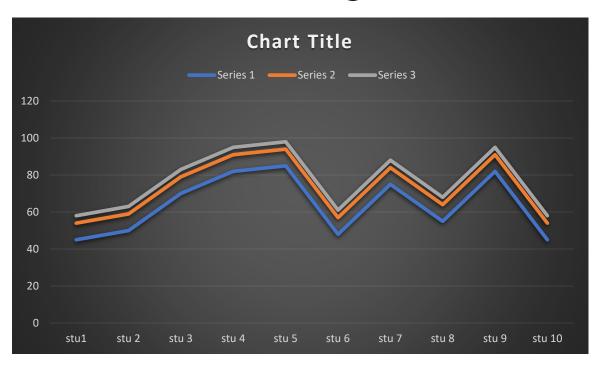
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**CHART** 



## CHART 2



## CHART 3

