Sum and Difference Identities	**Double/Half-Angle Identities**
$\sin(\alpha+\beta)=\sin\alpha\cos\beta+\cos\alpha\sin\beta$	$\sin(2\theta)=2\sin\theta\cos\theta$
$\sin(\alpha-\beta)=\sin\alpha\cos\beta-\cos\alpha\sin\beta$	$\cos(2\theta)=\begin{cases}\cos^2\theta-\sin^2\theta\\ 2\cos^2\theta-1\\ 1-2\sin^2\theta\end{cases}$
$\cos(\alpha+\beta)=\cos\alpha\cos\beta-\sin\alpha\sin\beta$	$\tan(2\alpha)=\dfrac{2\tan\alpha}{1-\tan^2\alpha}$
$\cos(\alpha-\beta)=\cos\alpha\cos\beta+\sin\alpha\sin\beta$	$\sin\dfrac{x}{2}=\pm\sqrt{\dfrac{1-\cos x}{2}}$
$\tan(\alpha+\beta)=\dfrac{\tan\alpha+\tan\beta}{1-\tan\alpha\tan\beta}$	$\cos\dfrac{x}{2}=\pm\sqrt{\dfrac{1+\cos x}{2}}$
$\tan(\alpha-\beta)=\dfrac{\tan\alpha-\tan\beta}{1+\tan\alpha\tan\beta}$	$\tan(\alpha/2)=\dfrac{1-\cos\alpha}{\sin\alpha}=\dfrac{\sin\alpha}{1+\cos\alpha}$

Vectors
$\text{comp}_{\vec{v}}\vec{u}=\dfrac{\vec{u}\cdot\vec{v}}{\lvert\vec{v}\rvert}$
$\text{proj}_{\vec{v}}\vec{u}=\dfrac{\vec{u}\cdot\vec{v}}{\lvert\vec{v}\rvert^2}\vec{v}$