Double-Angle Identities:

$\sin(2u) =$ $2\sin u \cos u$

$\cos(2u) =$ $\cos^2 x - \sin^2 x$

$\cos(2u) =$ $1 - 2\sin^2 x$

$\cos(2u) =$ $2\cos^2 x - 1$

$\tan(2u) =$ $\dfrac{2\tan x}{1 - \tan^2 x}$

Half-Angle Identities:

$\sin\frac{u}{2} =$ $\pm\sqrt{\dfrac{1+\cos x}{2}}$

$\cos\frac{u}{2} =$ $\pm\sqrt{\dfrac{1+\cos u}{2}}$

$\tan\frac{u}{2} =$ $\pm\sqrt{\dfrac{1-\cos u}{1+\cos u}}$

$\tan\frac{u}{2} =$ $\dfrac{\sin u}{1+\cos u}$

$\tan\frac{u}{2} =$ $\dfrac{1-\cos u}{\sin u}$

Power-Reducing Identities:

$\sin^2 u = \dfrac{1-\cos(2u)}{2}$

$\cos^2 u = \dfrac{1+\cos(2u)}{2}$

$\tan^2 u = \dfrac{1-\cos(2u)}{1+\cos(2u)}$