# TRIG IDENTITIES

Pythagorean Identities

$$\sin^2\theta+\cos^2\theta=1$$
$$\tan^2\theta+1=\sec^2\theta$$
$$1+\cot^2\theta=\csc^2\theta$$

Double Angle Indentities

$$\sin(2\theta)=2\sin\theta\cos\theta$$
$$\cos(2\theta)=\cos^2\theta-\sin^2\theta$$
$$=1-2\sin^2\theta$$
$$=2\cos^2\theta-1$$

Sum/Difference Identities

$$\sin(A\pm B)=\sin A\cos B\pm\sin B\cos A$$
$$\cos(A\pm B)=\cos A\cos B\mp\sin A\sin B$$

Power Reducing Indentities

… just rewritten forms of cos(2$\theta$) …

$$\sin^2\theta=\frac{1-\cos(2\theta)}{2}$$
$$\cos^2\theta=\frac{1+\cos(2\theta)}{2}$$