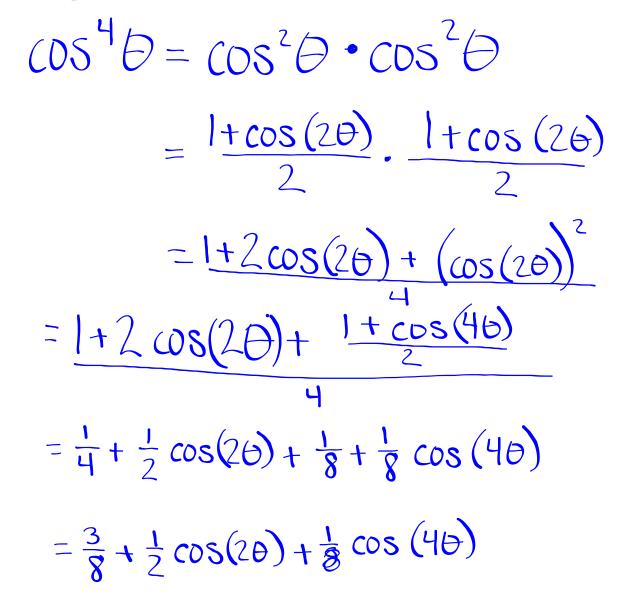
$$Sin^{2}\Theta = \frac{1-\cos(2\theta)}{2}$$

$$Cos^{2}\Theta = \frac{1+\cos(2\theta)}{2}$$

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

EXAMPLE Establishing an Identity

Write an equivalent expression for $\cos^4 \theta$ that does not involve any powers of sine or cosine greater than 1.



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

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

