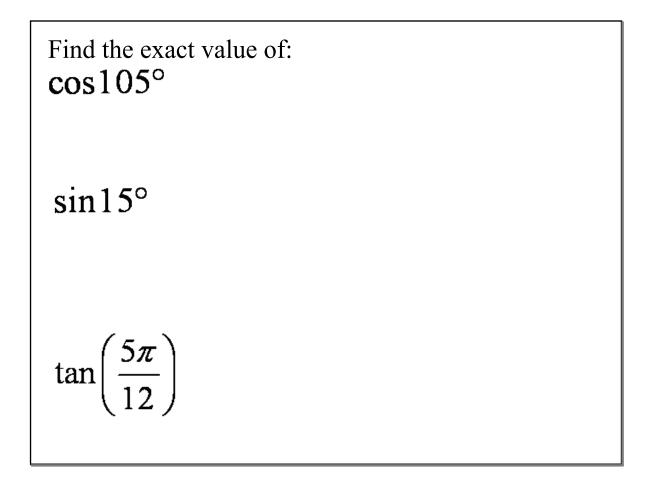


 $\cos(\alpha - \beta) = \cos\alpha\cos\beta + \sin\alpha\sin\beta$ $\cos(\alpha + \beta) = \cos\alpha\cos\beta - \sin\alpha\sin\beta$

 $\sin(\alpha - \beta) = \sin \alpha \cos \beta - \cos \alpha \sin \beta$ $\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$

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



Write as the sin, cos, or tan of an angle:

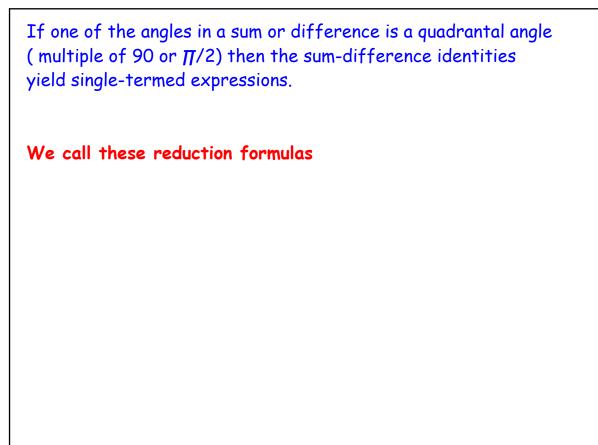
$$\sin 50^{\circ} \cos 26^{\circ} - \cos 50^{\circ} \sin 26^{\circ}$$

$$\cos 50^{\circ} \cos 26^{\circ} - \sin 50^{\circ} \sin 26^{\circ}$$

$$\frac{\tan \frac{\pi}{3} - \tan \frac{\pi}{4}}{1 + \tan \frac{\pi}{3} \tan \frac{\pi}{4}}$$

Prove the identity:

$$\cos\left(x - \frac{\pi}{2}\right) = \sin x$$



$$\sin(x-y)+\sin(x+y)=2\sin x\cos y$$

Use your knowledge of identities to describe the transformation of these graphs.

 $\cos(x-3)$

$$\cos(3-2x)$$

Just like in 5.1 we can use identities to help us solve equations using trig

 $\cos 3x \cos x = \sin 3x \sin x$

$$\sin(3x) = 3\cos^2 x \sin x - \sin^3 x$$