5-2 Sum & Difference Identities

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

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

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

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

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

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

Express the angle as a sum or difference of 2 special angles.

135° 150°

Find the exact value of:

$\cos 105^\circ$

$\sin 15^\circ$

$\tan 75^\circ$

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

$$\sin 50° \cos 26° - \cos 50° \sin 26°$$

$$\cos 50° \cos 26° - \sin 50° \sin 26°$$

$$\frac{\tan 60° - \tan 45°}{1 + \tan 60° \tan 45°}$$

Prove the identity:

$$\cos\left(x - 90°\right) = \sin x$$

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