Handout 4: Using Sum and Difference Identities

Grab those reference triangles. You're going to need them!

Use sum and difference identities to find the following:

1.
$$\cos(165)$$
 $\frac{-\sqrt{6}-\sqrt{2}}{4}$

6.
$$\sin(255)$$
 $\frac{-\sqrt{6}-\sqrt{2}}{4}$

$$2. \sin(195)$$

$$\frac{\sqrt{2}-\sqrt{6}}{4}$$

7.
$$\sin(285)$$
 $\frac{-\sqrt{6}-\sqrt{2}}{4}$

3.
$$\tan(75)$$

 $2 + \sqrt{3}$

$$2 + \sqrt{3}$$

8.
$$\cos(-15)$$

$$\frac{\sqrt{6}+\sqrt{2}}{4}$$

$$4. \tan\left(\frac{\pi}{12}\right) \\ 2 - \sqrt{3}$$

9.
$$\tan(-105)$$

 $2 + \sqrt{3}$

$$5. \cos(195)$$

$$\frac{-\sqrt{6}-\sqrt{2}}{4}$$

10.
$$\tan\left(\frac{13\pi}{12}\right)$$

$$2 - \sqrt{3}$$

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