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

2. $\sin(195)$

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

3. $\tan(75)$
   $2+\sqrt{3}$

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

5. $\cos(195)$
   $\frac{-\sqrt{6}-\sqrt{2}}{4}$

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

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

8. $\cos(-15)$

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

9. $\tan(-105)$
   $2+\sqrt{3}$

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

    $2-\sqrt{3}$
