Pre-Calculus Name: _____
Section 5.4 Practice

For numbers 1 – 3, find the exact value of the expression.

1. $\cos\left(\frac{3\pi}{4}-\frac{\pi}{6}\right)$

2. $\sin\frac{7\pi}{12}$

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

4. $\cos 75°$

5. $\cos 105°$

6. $\sin(-15°)$

For numbers 7 – 11, write each expression as the sine, cosine, or tangent of an angle. Then find the exact value of the expression (if possible).

7. $\dfrac{\tan 10^\circ + \tan 35^\circ}{1 - \tan 10^\circ \tan 35^\circ}$

8. $\cos\dfrac{5\pi}{18}\cos\dfrac{\pi}{9} + \sin\dfrac{5\pi}{18}\sin\dfrac{\pi}{9}$

9. $\sin 75^\circ \cos 15^\circ + \cos 75^\circ \sin 15^\circ$

10. $\cos\dfrac{5\pi}{12}\cos\dfrac{\pi}{12} - \sin\dfrac{5\pi}{12}\sin\dfrac{\pi}{12}$

11. $\sin 3x \cos 2x - \cos 3x \sin 2x$

For numbers 12 and 13, verify the given identity.

12. $\sin(x + \pi) = -\sin x$

13. $\cos\left(x + \dfrac{\pi}{2}\right) = -\sin x$