ACMAT118 Spring 2024
Professor Manguba-Glover
Section 7.5 Homework (HW 13) Name: _____

Show all work and simplify all answers before circling/boxing them. If you do the problem incorrectly, or don't show sufficient work, you will be asked to rewrite the problem for full credit.

Due next class. Students who turn assignments in late (or do not attempt a problem) forfeit their ability to rewrite those problems for credit.

1. If $\sin\theta = \frac{12}{13}$ and $\cos\theta = \frac{5}{13}$, find $\sin 2\theta$, $\cos 2\theta$, and $\tan 2\theta$.
2. If $\csc\theta = -2$ and $\sec\theta > 0$, find $\sin 2\theta$, $\cos 2\theta$, and $\tan 2\theta$
3. Evaluate sine, cosine, and tangent for $\theta = \frac{\pi}{8}$
4. Evaluate sine, cosine, and tangent for $\theta = \frac{5\pi}{12}$
5. Given $\cos\theta = \dfrac{2}{5}$ and $\dfrac{3\pi}{2} < \theta < 2\pi$, find the following: $\sin(2\theta)$, $\cos(2\theta)$, $\sin\left(\dfrac{\theta}{2}\right)$, and $\cos\left(\dfrac{\theta}{2}\right)$.
6. If $\csc\theta = \frac{25}{24}$ and $90^\circ < \theta < 180^\circ$, find $\sin\frac{\theta}{2}$, $\cos\frac{\theta}{2}$, and $\tan\frac{\theta}{2}$.
7. Verify the identity: $\tan\theta + \cot\theta = \frac{2}{\sin 2\theta}$