

Name: _____

MATH 104

Spring 2023

HW 6: Due 05/04

“They turned their desks into a trigonometric war room, poring over equations scrawling ideas on blackboards, evaluating their work, erasing it, starting over.”

–Margot Lee Shetterly, Hidden Figures

Problem 1. (10pt) Compute each of the following:

(a) $\sin\left(-\frac{5\pi}{4}\right)$

(b) $\cos\left(-\frac{5\pi}{6}\right)$

(c) $\tan\left(\frac{11\pi}{6}\right)$

(d) $\sec\left(\frac{2\pi}{3}\right)$

(e) $\csc\left(-\frac{3\pi}{2}\right)$

Problem 2. (10pt) Showing all your work, complete each of the following:

- (a) Use the double angle formula to find $\sin\left(\frac{3\pi}{2}\right)$.
- (b) Use the addition/subtraction formula to find $\cos\left(\frac{\pi}{12}\right)$. [Hint: $\frac{\pi}{12} = \frac{\pi}{4} - \frac{\pi}{6}$.]
- (c) Using the fact that $\cos(2\theta) = 0.114$, use power reduction to find $\sin^2(\theta)$.