

MATH 1080 TRIGONOMETRY

7.3 Worksheet – Unit Circle

Name _____

Date _____

1. Use a unit circle to determine each **exact** value without a calculator.

a. $\sin(-270^\circ)$

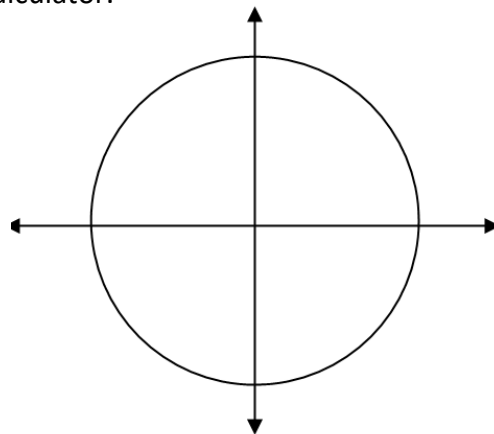
b. $\cos(-90^\circ)$

c. $\sec(3\pi)$

d. $\csc\left(\frac{\pi}{2}\right)$

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

f. $\cot\left(-\frac{\pi}{2}\right)$



2. Using a unit circle, draw the triangle in the appropriate quadrant, stating the reference angle and lengths of the sides. Then determine the **exact value** without a calculator.

a. $\cos 210^\circ$

b. $\tan(-240^\circ)$

c. $\sin\left(\frac{13\pi}{4}\right)$

e. $\sec\left(-\frac{7\pi}{3}\right)$

3a. Determine the **exact value** of $\cos \theta$, if $\sin \theta = -\frac{5}{7}$ in *QIII*.

3b. Determine the **exact value** of $\sin(t)$, if $\tan(t) = -\frac{8}{3}$ in *QII*.

4. Using a calculator **in radian mode**, evaluate each to four decimal places.

a. $\cos\left(-\frac{9\pi}{4}\right)$

b. $\sin\left(\frac{7\pi}{6}\right)$

5. Using a unit circle, determine the exact value of each product. **NO CALCULATOR.**

a. $\sin\left(\frac{4\pi}{3}\right) \cos\left(-\frac{7\pi}{6}\right)$

b. $\sin\left(-\frac{3\pi}{2}\right) \cos(-\pi)$