Honors Precalculus Name: _____
Reference Angles, Trig Ratios on and off the UC Date: _____

Do the work in your journal.

1. Find the reference angle of each:

a) $-415°$ b) $\frac{17\pi}{3}$ c) $-\frac{13\pi}{5}$

2. Point $P(3,-5)$ is on the terminal side of angle θ in standard position. What is the value of $\csc\theta$?

3. If θ is in standard position and its terminal side is in Q3, what is the value of $\cos\theta$ if $\cot\theta = \frac{3}{\sqrt{13}}$?

4. If θ is in standard position and its terminal side is in Q2, what is the value of $\cot\theta$ if $\sin\theta = a$?

5. If θ is in standard position and its terminal side is in Q4, what is the value of $\tan\theta$ if $\sin\theta = m$?

6. If $\cot = -\frac{4}{3}$ and $\sin\theta < 0$, what is the exact value of $\sec\theta$?

7. If $\frac{\pi}{2} \le \theta \le \frac{3\pi}{2}$ and $\tan\theta = -\frac{5}{6}$, what is the exact value of $\csc\theta$?

8. Find the exact value of each trigonometric function.

a) $\sin\frac{\pi}{4}$	b) $\tan\frac{10\pi}{3}$
c) $\sin 150°$	d) $\csc(-120°)$
e) $\tan\left(-\frac{3\pi}{4}\right)$	f) $\cos\left(-\frac{13\pi}{6}\right)$
g) $\sec\left(-\frac{11\pi}{6}\right)$	h) $\cot 5\pi$
i) $\sec\left(-\frac{5\pi}{4}\right)$	j) $\cot 300°$
k) $\tan\frac{5\pi}{6}$	l) $\sec\frac{7\pi}{4}$
m) $\csc\left(-\frac{2\pi}{3}\right)$	n) $\cos\frac{7\pi}{2}$

9. Find the reference angle and two coterminal angles (one positive and one negative) of the given θ.

a) $\theta = 610°$ b) $\theta = \left(-\frac{15\pi}{8}\right)$ c) $-75°$

10. Determine the exact value of each. Hint: find the reference angle.

a) $\sec(-210°)$ b) $\tan\frac{15\pi}{4}$ c) $\csc 675°$ d) $\cos(-900°)$

11. If $\cos\theta = -\frac{1}{3}$ and $\pi \le \theta \le \frac{3\pi}{2}$, what is the exact value of $\cot\theta$?

12. Point P $(-4,-2)$ is on the terminal side of angle θ in standard position. What is the exact value of $\sec\theta$?

13. The terminal side of an angle θ in standard position passes through the point P $(-3, 4)$. Find the exact value of $\csc\theta + \tan\theta$.

14. If $\sin\theta = -\frac{3}{7}$ and $\tan\theta > 0$, find the other trig ratios for θ.

15. Given $\sec\theta = \frac{5}{2}$ and the terminal side is in Q4, find the exact values of the other trig ratios for θ.