Name: Date: Period:

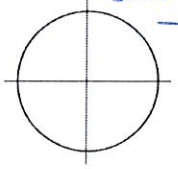
Score:	First attempt due:
	Final corrections due:

Practice Worksheet:
Trig Ratios on the Unit Circle

Find the exact value of the trig ratio without using a calculator! ~~Sketch both the given angle and reference~~ Find the principle angle, then evaluate.
angle on the circle. You must show work that supports your answers.

1. $\sin -1320^\circ$

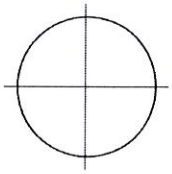
$+360^\circ$
$+360^\circ$
$+360$
$+360^\circ$
120°



$\frac{\sqrt{3}}{2}$

2. $\tan 930^\circ$

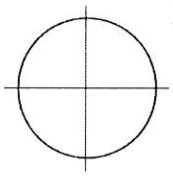
-360°
-360°
210°



$\frac{\sqrt{3}}{3}$

3. $\cos -405^\circ$

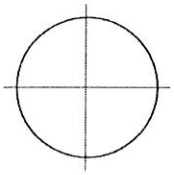
$+360^\circ$
$+360^\circ$
315°



$\frac{\sqrt{2}}{2}$

4. $\cot -240^\circ$

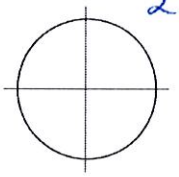
$+360^\circ$
120°



$-\frac{\sqrt{3}}{3}$

5. $\sec 1305^\circ$

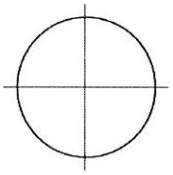
-360°
-360°
-360°
225°



$-\sqrt{2}$

6. $\csc 630^\circ$

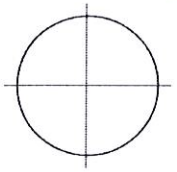
-360°
270°



-1

7. $\cos -\frac{16\pi}{3}$

$+\frac{6\pi}{3}$ $+\frac{6\pi}{3}$ $+\frac{6\pi}{3}$
$= \frac{2\pi}{3}$

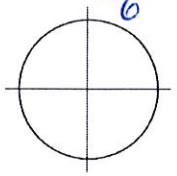


$\frac{-1}{2}$

$\frac{2\pi}{1} \times \frac{3}{3} = \frac{6\pi}{3}$

8. $\sin \frac{47\pi}{6}$

$-\frac{12\pi}{6}$
$-\frac{12\pi}{6}$
$-\frac{12\pi}{6}$
$= \frac{11\pi}{6}$

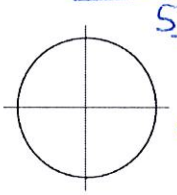


$-\frac{1}{2}$

$\frac{2\pi}{1} \times \frac{6}{6} = \frac{12\pi}{6}$

9. $\sec \frac{29\pi}{6}$

$-\frac{12\pi}{6}$
$-\frac{12\pi}{6}$
$\frac{5\pi}{6}$

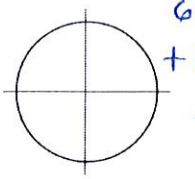


$-\frac{2\sqrt{3}}{3}$

$\frac{2\pi}{1} \times \frac{6}{6} = \frac{12\pi}{6}$

10. $\csc -\frac{31\pi}{6}$

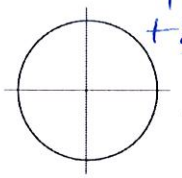
$+\frac{12\pi}{6}$
$+\frac{12\pi}{6}$
$+\frac{12\pi}{6}$
$\frac{5\pi}{6}$



2

11. $\tan -\frac{17\pi}{4} \rightarrow \frac{7\pi}{4}$

$+\frac{8\pi}{4}$
$+\frac{8\pi}{4}$
$+\frac{8\pi}{4}$

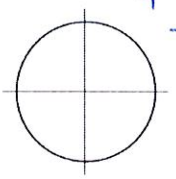


-1

$\frac{2\pi}{1} \times \frac{4}{4} = \frac{8\pi}{4}$

12. $\cot \frac{38\pi}{4}$

$-\frac{8\pi}{4}$
$-\frac{8\pi}{4}$
$-\frac{8\pi}{4}$ $-\frac{8\pi}{4}$



0

$\frac{6\pi}{4} \rightarrow \frac{3\pi}{2}$

UNIT CIRCLE PRACTICE 2

1. cot 180°_____ 2. sec 720° _____ 3. csc 720° _____

4. sin(-135°)_____ 5. cos 135° _____ 6. sin 150° _____

7. cos 150°_____ 8. tan 240° _____ 9. sec 315° _____

10. cot(-315°)_____ 11. $\sin\left(\frac{13\pi}{4}\right)$ _____ 12. $\cos\left(\frac{\pi}{6}\right)$ _____

13. $\tan\left(\frac{7\pi}{6}\right)$_____ 14. $\sec\left(\frac{14\pi}{6}\right)$ _____ 15. $\csc\left(\frac{\pi}{3}\right)$ _____

16. $\cot\left(\frac{11\pi}{6}\right)$_____ 17. $\sin\left(\frac{23\pi}{6}\right)$ _____ 18. $\cos\left(\frac{-\pi}{2}\right)$ _____

19. $\tan\left(\frac{-5\pi}{6}\right)$ _____ 20. $\sec\left(-\frac{17\pi}{6}\right)$ _____ 21. $\csc\left(-\frac{3\pi}{2}\right)$ _____

22. $\cot\left(-\frac{7\pi}{6}\right)$ _____ 23. sin(-660°) _____ 24. cos 840° _____

25. tan 540° _____ 26. sec(-780°) _____ 27. csc 1320° _____