

DATE: _____

Row By Row A

Angle	Corresponding Angle θ , where $0 \leq \theta < 2\pi$ (show work, if needed)
$\frac{7\pi}{2}$	$\frac{7\pi}{2} - 2\pi = \frac{7\pi}{2} - \frac{4\pi}{2} = \frac{3\pi}{2}$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">$\frac{3\pi}{2}$</div>
$-\frac{\pi}{3}$	$-\frac{\pi}{3} + 2\pi = -\frac{\pi}{3} + \frac{6\pi}{3} = \frac{5\pi}{3}$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">$\frac{5\pi}{3}$</div>
$\frac{8\pi}{3}$	$\frac{8\pi}{3} - 2\pi = \frac{8\pi}{3} - \frac{6\pi}{3} = \frac{2\pi}{3}$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">$\frac{2\pi}{3}$</div>
7π	$7\pi - 2\pi = 5\pi$ $5\pi - 2\pi = 3\pi$ $3\pi - 2\pi = \pi$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">π</div>
$\frac{17\pi}{4}$	$\frac{17\pi}{4} - 2\pi = \frac{17\pi}{4} - \frac{8\pi}{4} = \frac{9\pi}{4}$ $\frac{9\pi}{4} - 2\pi = \frac{9\pi}{4} - \frac{8\pi}{4} = \frac{\pi}{4}$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">$\frac{\pi}{4}$</div>
$\frac{17\pi}{6}$	$\frac{17\pi}{6} - 2\pi = \frac{17\pi}{6} - \frac{12\pi}{6} = \frac{5\pi}{6}$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">$\frac{5\pi}{6}$</div>
$\frac{41\pi}{2}$	$\frac{41\pi}{2} - 2\pi = \frac{41\pi}{2} - \frac{4\pi}{2} = \frac{37\pi}{2}$ $\frac{37\pi}{2} - 2\pi = \frac{37\pi}{2} - \frac{4\pi}{2} = \frac{33\pi}{2}$ $\frac{33\pi}{2} - \frac{4\pi}{2} = \frac{29\pi}{2}$ $\frac{29\pi}{2} - \frac{4\pi}{2} = \frac{25\pi}{2}$ $\frac{25\pi}{2} - \frac{4\pi}{2} = \frac{21\pi}{2}$ $\frac{21\pi}{2} - \frac{4\pi}{2} = \frac{17\pi}{2}$ $\frac{17\pi}{2} - \frac{4\pi}{2} = \frac{13\pi}{2}$ $\frac{13\pi}{2} - \frac{4\pi}{2} = \frac{9\pi}{2}$ $\frac{9\pi}{2} - \frac{4\pi}{2} = \frac{5\pi}{2}$ $\frac{5\pi}{2} - \frac{4\pi}{2} = \frac{\pi}{2}$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">$\frac{\pi}{2}$</div>
-8π	$-8\pi + 2\pi = -6\pi$ $-6\pi + 2\pi = -4\pi$ $-4\pi + 2\pi = -2\pi$ $-2\pi + 2\pi = 0$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">0</div>

Expression	Expression written with Unit Circle \angle (if necessary)	Convert to sine/cosine (if necessary)	Value of Expression
$\sin \frac{3\pi}{2}$	\times	\times	-1
$\cos \frac{5\pi}{3}$	\times	\times	$\frac{1}{2}$
$\tan \pi$	\times	$\frac{\sin \pi}{\cos \pi} = \frac{0}{-1}$	0
$\csc \frac{7\pi}{4}$	\times	$\frac{1}{\sin \frac{7\pi}{4}} = \frac{1}{-\sqrt{2}/2}$	$-\frac{2}{\sqrt{2}}$ or $-\sqrt{2}$
$\sec \frac{\pi}{3}$	\times	$\frac{1}{\cos \frac{\pi}{3}} = \frac{1}{1/2}$	2
$\cot 7\pi$	$7\pi - 2\pi = 5\pi$ $5\pi - 2\pi = 3\pi$ $3\pi - 2\pi = \pi$ $\cot \pi$	$\frac{\cos \pi}{\sin \pi} = \frac{-1}{0}$	DNE or undefined
$\tan \frac{19\pi}{6}$	$\frac{19\pi}{6} - 2\pi = \frac{19\pi}{6} - \frac{12\pi}{6}$ $\tan \frac{7\pi}{6}$	$\frac{\sin \frac{7\pi}{6}}{\cos \frac{7\pi}{6}} = \frac{-1/2}{-\sqrt{3}/2}$	$\frac{1}{\sqrt{3}}$ or $\frac{\sqrt{3}}{3}$
$\cos \frac{-2\pi}{3}$	$-\frac{2\pi}{3} + 2\pi = \frac{-2\pi}{3} + \frac{6\pi}{3}$ $\cos \frac{4\pi}{3}$	\times	$-\frac{1}{2}$

Row By Row B

Angle	Corresponding Angle θ , where $0 \leq \theta < 2\pi$ (show work, if needed)
$-\frac{\pi}{2}$	$-\frac{\pi}{2} + 2\pi = -\frac{\pi}{2} + \frac{4\pi}{2} = \frac{3\pi}{2}$ <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">$\frac{3\pi}{2}$</div>
$\frac{11\pi}{3}$	$\frac{11\pi}{3} - 2\pi = \frac{11\pi}{3} - \frac{6\pi}{3} = \frac{5\pi}{3}$ <div style="text-align: center; border: 1px solid green; padding: 5px; width: fit-content; margin: auto;">$\frac{5\pi}{3}$</div>
$-\frac{4\pi}{3}$	$-\frac{4\pi}{3} + 2\pi = -\frac{4\pi}{3} + \frac{6\pi}{3} = \frac{2\pi}{3}$ <div style="text-align: center; border: 1px solid purple; padding: 5px; width: fit-content; margin: auto;">$\frac{2\pi}{3}$</div>
11π	$11\pi - 2\pi = 9\pi$ $9\pi - 2\pi = 7\pi$ $7\pi - 2\pi = 5\pi$ $5\pi - 2\pi = 3\pi$ $3\pi - 2\pi = \pi$ <div style="text-align: center; border: 1px solid blue; padding: 5px; width: fit-content; margin: auto;">π</div>
$\frac{9\pi}{4}$	$\frac{9\pi}{4} - 2\pi = \frac{9\pi}{4} - \frac{8\pi}{4} = \frac{\pi}{4}$ <div style="text-align: center; border: 1px solid purple; padding: 5px; width: fit-content; margin: auto;">$\frac{\pi}{4}$</div>
$\frac{29\pi}{6}$	$\frac{29\pi}{6} - 2\pi = \frac{29\pi}{6} - \frac{12\pi}{6} = \frac{17\pi}{6}$ $\frac{17\pi}{6} - 2\pi = \frac{17\pi}{6} - \frac{12\pi}{6} = \frac{5\pi}{6}$ <div style="text-align: center; border: 1px solid pink; padding: 5px; width: fit-content; margin: auto;">$\frac{5\pi}{6}$</div>
$\frac{25\pi}{2}$	$\frac{25\pi}{2} - 2\pi = \frac{25\pi}{2} - \frac{4\pi}{2} = \frac{21\pi}{2}$ $\frac{21\pi}{2} - 2\pi = \frac{21\pi}{2} - \frac{4\pi}{2} = \frac{17\pi}{2}$ $\frac{17\pi}{2} - \frac{4\pi}{2} = \frac{13\pi}{2}$ $\frac{13\pi}{2} - \frac{4\pi}{2} = \frac{9\pi}{2}$ $\frac{9\pi}{2} - \frac{4\pi}{2} = \frac{5\pi}{2}$ $\frac{5\pi}{2} - \frac{4\pi}{2} = \frac{\pi}{2}$ <div style="text-align: center; border: 1px solid green; padding: 5px; width: fit-content; margin: auto;">$\frac{\pi}{2}$</div>
34π	$34\pi - 2\pi = 32\pi$ $32\pi - 2\pi = 30\pi$ $30\pi - 2\pi = 28\pi$ \vdots $2\pi - 2\pi = 0$ <div style="text-align: center; border: 1px solid blue; padding: 5px; width: fit-content; margin: auto;">0</div>

Expression	Expression written with Unit Circle \angle (if necessary)	Convert to sine/cosine (if necessary)	Value of Expression
$\cos \pi$	\times	\times	-1
$\sin \frac{5\pi}{6}$	\times	\times	$\frac{1}{2}$
$\cot \frac{\pi}{2}$	\times	$\frac{\cos \frac{\pi}{2}}{\sin \frac{\pi}{2}} = \frac{0}{-1}$	0
$\sec \frac{11\pi}{4}$	$\frac{11\pi}{4} - 2\pi = \frac{11\pi}{4} - \frac{8\pi}{4}$ $\sec \frac{3\pi}{4}$ ☺	$\frac{1}{\cos \frac{3\pi}{4}} = \frac{1}{-\frac{\sqrt{2}}{2}}$	$-\frac{2}{\sqrt{2}}$ or $-\sqrt{2}$
$\csc \frac{\pi}{6}$	\times	$\frac{1}{\sin \frac{\pi}{6}} = \frac{1}{\frac{1}{2}}$	2
$\tan \left(-\frac{\pi}{2}\right)$	$-\frac{\pi}{2} + 2\pi = -\frac{\pi}{2} + \frac{4\pi}{2} = \frac{3\pi}{2}$ $\tan \frac{3\pi}{2}$ ☹	$\frac{\sin \frac{3\pi}{2}}{\cos \frac{3\pi}{2}} = \frac{-1}{0}$	DNE or undefined
$\cot \frac{7\pi}{3}$	$\frac{7\pi}{3} - 2\pi = \frac{7\pi}{3} - \frac{6\pi}{3}$ ☺ $\cot \frac{\pi}{3}$	$\frac{\cos \frac{\pi}{3}}{\sin \frac{\pi}{3}} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}}$	$\frac{1}{\sqrt{3}}$ or $\frac{\sqrt{3}}{3}$
$\sin \frac{23\pi}{6}$	$\frac{23\pi}{6} - 2\pi = \frac{23\pi}{6} - \frac{12\pi}{6} = \frac{11\pi}{6}$ $\sin \frac{11\pi}{6}$	\times	$-\frac{1}{2}$