key

The Unit Circle – Honors Math 3

mplete the chart:

	$\sin\theta$ y	$\cos\theta$ x	$\tan\theta$ y/x	$\csc\theta$ $1/y$	$\sec\theta$ $1/x$	$\cot\theta$ x/y
0 $(1,0)$	0	1	0	undef	1	undef
$\pi/6$ $(\sqrt{3}/2, 1/2)$	$1/2$	$\sqrt{3}/2$	$\sqrt{3}/3$	2	$2\sqrt{3}/3$	$\sqrt{3}$
$\pi/4$ $(\sqrt{2}/2, \sqrt{2}/2)$	$\sqrt{2}/2$	$\sqrt{2}/2$	1	$\sqrt{2}$	$\sqrt{2}$	1
$\pi/3$ $(1/2, \sqrt{3}/2)$	$\sqrt{3}/2$	$1/2$	$\sqrt{3}$	$2\sqrt{3}/3$	2	$\sqrt{3}/3$
$\pi/2$ $(0,1)$	1	0	undef.	1	undef.	0
$2\pi/3$ $(-1/2, \sqrt{3}/2)$	$\sqrt{3}/2$	$-1/2$	$-\sqrt{3}$	$2\sqrt{3}/3$	-2	$-\sqrt{3}/3$
$3\pi/4$ $(-\sqrt{2}/2, \sqrt{2}/2)$	$\sqrt{2}/2$	$-\sqrt{2}/2$	-1	$\sqrt{2}$	$-\sqrt{2}$	-1
$5\pi/6$ $(-\sqrt{3}/2, 1/2)$	$1/2$	$-\sqrt{3}/2$	$-\sqrt{3}/3$	2	$-2\sqrt{3}/3$	$-\sqrt{3}$
π $(-1,0)$	0	-1	0	undef	-1	undef
$7\pi/6$ $(-\sqrt{3}/2, -1/2)$	$-1/2$	$-\sqrt{3}/2$	$\sqrt{3}/3$	-2	$-2\sqrt{3}/3$	$\sqrt{3}$
$5\pi/4$ $(-\sqrt{2}/2, -\sqrt{2}/2)$	$-\sqrt{2}/2$	$-\sqrt{2}/2$	1	$-\sqrt{2}$	$-\sqrt{2}$	1
$4\pi/3$ $(-1/2, -\sqrt{3}/2)$	$-\sqrt{3}/2$	$-1/2$	$\sqrt{3}$	$-2\sqrt{3}/3$	-2	$\sqrt{3}/3$
$3\pi/2$ $(0,-1)$	-1	0	undef	-1	undef	0
$5\pi/3$ $(1/2, -\sqrt{3}/2)$	$-\sqrt{3}/2$	$1/2$	$-\sqrt{3}$	$-2\sqrt{3}/3$	2	$-\sqrt{3}/3$
$7\pi/4$ $(\sqrt{2}/2, -\sqrt{2}/2)$	$-\sqrt{2}/2$	$\sqrt{2}/2$	-1	$-\sqrt{2}$	$\sqrt{2}$	-1
$11\pi/6$ $(\sqrt{3}/2, -1/2)$	$-1/2$	$\sqrt{3}/2$	$-\sqrt{3}/3$	-2	$2\sqrt{3}/3$	$-\sqrt{3}$
2π $(1,0)$	0	1	0	undef.	1	undef.

valuate the trigonometric function:

1. $\sin 3\pi + 2\pi = \sin\pi$ → 0
2. $\cos 3\pi - 2\pi = \cos\pi$ → -1
3. $\cos\frac{8\pi}{3} = \cos\frac{2\pi}{3}$ → $-1/2$
4. $\sin\frac{9\pi}{4} = \sin\pi/4 = \sqrt{2}/2$
5. $\cos\frac{19\pi}{6} = \cos\frac{7\pi}{6}$ → $-\sqrt{3}/2$
6. $\sin(-\frac{13\pi}{6})\sin\frac{11\pi}{6}$ → $-1/2$
7. $\cos(-\frac{8\pi}{3})\cos\frac{4\pi}{3}$ → $-1/2$
8. $\sin(-\frac{9\pi}{4})\sin(\frac{7\pi}{4})$ → $-\sqrt{2}/2$