

Bellwork Alg 2B 5th hr Monday, February 26, 2018

Use the Unit Circle to find the EXACT value of each.

1. $\tan \frac{50\pi}{3}$

2. $\cos \frac{-25\pi}{6}$

3. $\sin 72\pi$

4. $\cos 1215^\circ$

5. $\sin(-2220^\circ)$

6. $\tan \frac{39\pi}{2}$

7. $\tan \frac{45\pi}{4}$

8. $\cos 83\pi$

9. $\sin \frac{-55\pi}{6}$

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1. $\tan \frac{50\pi}{3}$

$\frac{50\pi}{3}$ is coterminal
with $\frac{2\pi}{3}$

$$\tan \frac{50\pi}{3} = \tan \frac{2\pi}{3} =$$

$$= \frac{\frac{\sqrt{3}}{2}}{-\frac{1}{2}} = -\sqrt{3}$$

2. $\cos \frac{-25\pi}{6}$

$\frac{-25\pi}{6}$ coterminal
with $\frac{11\pi}{6}$

$$\cos \frac{-25\pi}{6} = \cos \frac{11\pi}{6}$$

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

3. $\sin 72\pi$

72π coterminal
with 0

$$\sin 72\pi = \sin 0$$

$$= 0$$

4. $\cos 1215^\circ$

1215° coterminal
with 135°

$$\cos 1215^\circ = \cos 135^\circ$$

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

5. $\sin(-2220^\circ)$

-2220° coterminal
with 300°

$$\sin(-2220^\circ) = \sin 300^\circ$$

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

6. $\tan \frac{39\pi}{2}$

$\frac{39\pi}{2}$ coterminal with $\frac{3\pi}{2}$

$$\tan \frac{39\pi}{2} = \tan \frac{3\pi}{2}$$

$$= \frac{-1}{0}$$

undefined

7. $\tan \frac{45\pi}{4}$

$\frac{45\pi}{4}$ coterminal with

$$\frac{5\pi}{4}$$

$$\tan \frac{45\pi}{4} = \tan \frac{5\pi}{4}$$

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

$$= 1$$

8. $\cos 83\pi$

83π coterminal
with π

$$\cos 83\pi = \cos \pi$$

$$= -1$$

9. $\sin \frac{-55\pi}{6}$

$\frac{-55\pi}{6}$ coterminal
with $\frac{5\pi}{6}$

$$\sin \left(\frac{-55\pi}{6} \right) = \sin \frac{5\pi}{6}$$

$$= \frac{1}{2}$$