More Practice Sec 4.2 The Unit Circle - Harder Stuff! Name Key

Find each exact value. **DO NOT USE A CALCULATOR!**

4. $\csc \frac{\pi}{2} =$ 1

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

5. $\sec 30° =$ _____

$\cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$

$\sec \frac{\pi}{6} = \frac{2\sqrt{3}}{3}$

6. $\cot \frac{8\pi}{3} =$ $-\sqrt{3}$

Q2 tan neg

8. $\cot 45° =$ 1

9. $\sec 270° =$ _____

$\cos 270 = \frac{0}{1}$

$\sec = \frac{1}{0}$ undef

12. $\csc -\frac{7\pi}{2} =$ 1

$\sin = \frac{1}{1}$

$\csc = \frac{1}{1}$

13. $\sin 45° + \cos 60° =$ _____

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

14. $\sin \frac{3\pi}{2} + \tan \pi =$ _____

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

15. $\sin 45° \cos 45° =$ $\frac{1}{2}$

$\frac{\sqrt{2}}{2} \cdot \frac{\sqrt{2}}{2} = \frac{2}{4} = \frac{1}{2}$

16. $\tan \frac{\pi}{4} \cos \frac{\pi}{3} =$ $\frac{1}{2}$

$1 \cdot \frac{1}{2}$

17. $2 \sin 120° - 3 \tan 210° =$ 0

$2\left(\frac{\sqrt{3}}{2}\right) - 3\left(\frac{\sqrt{3}}{3}\right)$

$\sqrt{3} - \sqrt{3} = 0$

Q3

$\pi/3 \to \sqrt{3}/2$

18. $2 \sec\left(-\frac{\pi}{4}\right) + 4 \cot \frac{4\pi}{3} =$ $2\sqrt{2} + 4\sqrt{3}$

$2\left(\sqrt{2}\right) + 4\left(\frac{\sqrt{3}}{\sqrt{3}}\right)$

$\cos -\frac{\pi}{4} = \frac{\sqrt{2}}{2} \to \sec \frac{2}{\sqrt{2}} \quad \frac{2\sqrt{2}}{2} \cdot \sqrt{2}$

FOR MY EXPERTS!!

2. Evaluate each expression without using a calculator.

a. $\sin\left(\frac{2\pi}{3}\right)\cos\left(\frac{\pi}{4}\right)-\cos\left(\frac{2\pi}{3}\right)\sin\left(\frac{\pi}{4}\right)=$ _____

$\frac{\sqrt{3}}{2}\cdot\frac{\sqrt{2}}{2}-\left(-\frac{1}{2}\right)\cdot\frac{\sqrt{2}}{2}$

$\frac{\sqrt{6}}{4}+\frac{\sqrt{2}}{4}$

$\frac{\sqrt{6}+\sqrt{2}}{4}$

b. $\cos\left(\frac{7\pi}{6}\right)\cos\left(\frac{3\pi}{2}\right)-\sin\left(\frac{7\pi}{6}\right)\sin\left(\frac{3\pi}{2}\right)=$ $-\frac{1}{2}$

$-\frac{\sqrt{3}}{2}\cdot 0-\left(-\frac{1}{2}\right)\cdot(-1)$

$0-\frac{1}{2}=-\frac{1}{2}$

c. $\cos\left(\frac{17\pi}{6}\right)\cos 8\pi+\sin\left(\frac{17\pi}{6}\right)\sin 8\pi=$ $-\frac{\sqrt{3}}{2}$

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

Q2

$-\frac{\sqrt{3}}{2}\cdot 1+\frac{1}{2}\cdot 0$

d. $\sin\left(-\frac{3\pi}{4}\right)\cos\left(\frac{5\pi}{3}\right)-\cos\left(-\frac{3\pi}{4}\right)\sin\left(\frac{5\pi}{3}\right)=$ _____

Q3 Q4 Q3 Q4

$+\frac{\sqrt{2}}{2}\cdot\frac{1}{2}-\left(-\frac{\sqrt{2}}{2}\right)\cdot\left(-\frac{\sqrt{3}}{2}\right)$

$-\frac{\sqrt{2}}{4}-\frac{\sqrt{6}}{4}=\frac{-\sqrt{2}-\sqrt{6}}{4}$