

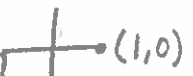



Class Examples: Evaluating from the Unit Circle (Extra Practice) Honors PreCalculus

When possible find the exact value of the following trigonometric expressions. If necessary, round to three decimal places.

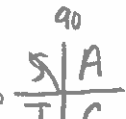
1. $\cos -\frac{35\pi}{6}$ 
 $= \cos \frac{\pi}{6}$
 $\boxed{\frac{\sqrt{3}}{2}}$


2. $\sin -\frac{17\pi}{3}$ 
 $= \sin \frac{\pi}{3}$
 $\boxed{\frac{\sqrt{3}}{2}}$

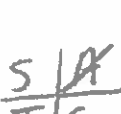
3. $\csc 0^\circ$ 
 $\frac{1}{0} = \text{und.}$


4. $\tan -6\pi$ 
 $= \tan 2\pi$
 $\frac{0}{1} = \boxed{0}$


5. $\cos 190^\circ$
 *not special / use calc. degree mode
 $= \boxed{-.985}$

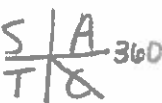
6. $\sec 495^\circ$ 
 $= \sec 135^\circ$
 $-\frac{2}{\sqrt{2}} = -\frac{2\sqrt{2}}{2} = \boxed{-\sqrt{2}}$

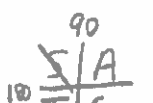
7. $\cos \frac{17\pi}{4}$ 
 $= \cos \frac{\pi}{4}$
 $\boxed{\frac{\sqrt{2}}{2}}$

8. $\csc \frac{19\pi}{3}$ 
 $= \csc \frac{\pi}{3}$
 $\frac{2}{\sqrt{3}} = \boxed{\frac{2\sqrt{3}}{3}}$


9. $\tan -\frac{11\pi}{4}$ 
 $= \tan \frac{5\pi}{4}$
 $\frac{\sqrt{2}}{\frac{\sqrt{2}}{2}} = \boxed{1}$

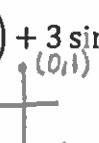
10. $\cot -\frac{17\pi}{6}$ 
 $= \cot \frac{7\pi}{6}$
 $\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \boxed{\sqrt{3}}$

11. $\sin 315^\circ$ 
 $\boxed{-\frac{\sqrt{2}}{2}}$

12. $\tan 510^\circ$ 
 $= \tan 150^\circ$
 $-\frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = -\frac{1}{\sqrt{3}} = \boxed{-\frac{\sqrt{3}}{3}}$

13. $\csc \frac{8\pi}{5}$
 *not special
 use calc. radian mode
 $\frac{1}{\sin(\frac{8\pi}{5})} = \boxed{-1.051}$

14. $\sec -\frac{3\pi}{2}$ 
 $= \sec \frac{\pi}{2}$
 $\frac{1}{0} = \text{und.}$

15. $\cot\left(\frac{\pi}{2}\right) + 3\sin\left(\frac{3\pi}{2}\right)$ 
 $0 + 3(-1) = \boxed{-3}$

16. $2\sec(0) + 4\cot^2\left(\frac{\pi}{2}\right) + \cos 2\pi$
 $2(1) + 4(0)^2 + 1$
 $2 + 0 + 1$
 $\boxed{3}$

17. $\cos^2\left(\frac{\pi}{3}\right) + \sec^2\left(\frac{5\pi}{6}\right) - \csc^2\left(\frac{7\pi}{6}\right)$
 $\left(\frac{1}{2}\right)^2 + (-2\frac{\sqrt{3}}{3})^2 - (-2)^2$
 $\frac{1}{4} + \frac{12}{9} - 4$
 $\frac{1}{4} + \frac{4}{3} - 4 = \boxed{-\frac{29}{12}}$

