

II. Find each exact trig value. No Calculator!!

1.  $\sin \frac{\pi}{4} = \frac{\sqrt{2}}{2}$

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

3.  $\tan \frac{\pi}{4} = \frac{\sqrt{2}/2}{\sqrt{2}/2} = 1$

4.  $\cos 210^\circ = -\frac{\sqrt{3}}{2}$

5.  $\sin 300^\circ = -\frac{\sqrt{3}}{2}$

6.  $\tan 330^\circ = \frac{-1/2}{\sqrt{3}/2} = -\frac{1}{\sqrt{3}}$

7.  $\sin \frac{3\pi}{4} = \frac{\sqrt{2}}{2}$

8.  $\cos \frac{2\pi}{3} = -\frac{1}{2}$

9.  $\tan \frac{7\pi}{6} = \frac{-1/2}{-\sqrt{3}/2} = \frac{1}{\sqrt{3}}$

10.  $\sin 90^\circ = 1$

11.  $\csc 270^\circ = -1$   
( $\sin 270^\circ = -1$ )

12.  $\sec \frac{4\pi}{3} = -2$   
( $\cos \frac{4\pi}{3} = -\frac{1}{2}$ )

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

13.  $\cot \frac{3\pi}{2} = \frac{0}{-1} = 0$

14.  $\sec(-240^\circ) = -2$   
( $\cos(-240^\circ) = -\frac{1}{2}$ )

15.  $\csc\left(-\frac{\pi}{6}\right) = -2$   
( $\sin\left(-\frac{\pi}{6}\right) = -\frac{1}{2}$ )

16.  $\cot 135^\circ = \frac{-\sqrt{2}/2}{\sqrt{2}/2} = -1$

III. Evaluate. No calculator!!

17.  $\sin 30^\circ - \cos 120^\circ = \frac{1}{2} - \left(-\frac{1}{2}\right) = \frac{1}{2} + \frac{1}{2} = 1$

18.  $\sin 240^\circ \cos 330^\circ = \frac{-\sqrt{3}}{2} \cdot \frac{\sqrt{3}}{2} = -\frac{3}{4}$

19.  $\tan 180^\circ + \sec 330^\circ = 0 + \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$   
 $\frac{0}{-1} = 0$      $\cos 330^\circ = \frac{\sqrt{3}}{2}$

20.  $\cos \frac{3\pi}{2} + \cos\left(-\frac{5\pi}{6}\right) = 0 + \frac{-\sqrt{3}}{2} = -\frac{\sqrt{3}}{2}$

21.  $\sin\left(-\frac{\pi}{6}\right) \cos\left(-\frac{2\pi}{3}\right) = \frac{-1}{2} \cdot \frac{-1}{2} = \frac{1}{4}$

22.  $\cos(-90^\circ) + \tan 180^\circ = 0 + 0 = 0$   
 $\frac{0}{-1} = 0$

23.  $(\cos 180^\circ)(\tan 60^\circ) = -1 \cdot \sqrt{3} = -\sqrt{3}$

24.  $(\sec 210^\circ)(\csc 150^\circ) = \frac{-2}{\sqrt{3}} \cdot \frac{2}{1} = -\frac{4}{\sqrt{3}} = -\frac{4\sqrt{3}}{3}$   
 $\cos 210^\circ = -\frac{\sqrt{3}}{2}$      $\sin 150^\circ = \frac{1}{2}$

25.  $(\cot 30^\circ)(\sin 270^\circ) = \sqrt{3} \cdot -1 = -\sqrt{3}$   
 $\frac{\sqrt{3}/2}{1/2} = \sqrt{3}$