

Part I: Evaluate using the unit circle. Show work when appropriate on notebook paper. No decimals.

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

1.  $\cos 45^\circ = \frac{\sqrt{2}}{2}$

2.  $\sin 210^\circ = -\frac{1}{2}$

3.  $\cos 315^\circ = \frac{\sqrt{2}}{2}$

6.  $\frac{-\sqrt{2}/2}{-\sqrt{2}/2} = 1$

4.  $\tan 120^\circ = -\sqrt{3}$

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

6.  $\tan 225^\circ = 1$

9.  $\frac{1}{0} = \text{und}$

7.  $\sin 150^\circ = \frac{1}{2}$

8.  $\cos 180^\circ = -1$

9.  $\tan 270^\circ = \text{und}$

12.  $\sin 30^\circ = \frac{1}{2}$   
 $\csc 30^\circ = 2$

10.  $\cos 390^\circ = \frac{\sqrt{3}}{2}$   
 $\cos 30^\circ$

11.  $\sin 420^\circ = \frac{\sqrt{3}}{2}$   
 $\sin 60^\circ$

12.  $\csc 30^\circ = 2$

14.  $\cos 315^\circ = \frac{\sqrt{2}}{2}$   
 $\sec 315^\circ = \frac{2}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$

13.  $\cos 540^\circ = -1$   
 $\cos 180^\circ$

14.  $\sec 315^\circ = \sqrt{2}$

15.  $\tan 60^\circ = \sqrt{3}$

15.  $\frac{\sqrt{3}/2}{1/2} = \frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \sqrt{3}$

16.  $\cot 30^\circ = \sqrt{3}$

17.  $\csc 0^\circ = \text{und}$

18.  $\sin -60^\circ = -\frac{\sqrt{3}}{2}$   
 $\sin 300^\circ = -\frac{2\sqrt{3}}{3}$

16.  $\frac{\sqrt{3}/2}{1/2} = \sqrt{3}$

19.  $\sec 135^\circ = -\sqrt{2}$

20.  $\cot -150^\circ = \sqrt{3}$   
 $\cot 210^\circ$

21.  $\csc 300^\circ = -\frac{2\sqrt{3}}{3}$

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

22.  $\tan -60^\circ = -\sqrt{3}$   
 $\tan (300^\circ)$

23.  $\sec -90^\circ = \text{und}$   
 $\sec (270^\circ)$

24.  $\cos -120^\circ = -\frac{1}{2}$   
 $\cos (240^\circ)$

19.  $\cos 135^\circ = -\frac{\sqrt{2}}{2}$   
 $\sec = \frac{-2}{\sqrt{2}} = \frac{-2\sqrt{2}}{2} = -\sqrt{2}$

25.  $\sin -45^\circ = -\frac{\sqrt{2}}{2}$   
 $\sin 315^\circ$

26.  $\cot 135^\circ = -1$

27.  $\csc 360^\circ = \text{und}$

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

28.  $\tan 480^\circ = -\sqrt{3}$   
 $\tan 120^\circ$

29.  $\sin 180^\circ = 0$

30.  $\sec -60^\circ = 2$   
 $\sec 300^\circ$

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

31.  $\cos 720^\circ = 1$   
 $\cos 0^\circ$

32.  $\cot -210^\circ = -\sqrt{3}$   
 $\cot 150^\circ$

33.  $\tan 120^\circ = \sqrt{3}$

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

34.  $\csc 150^\circ = 2$

35.  $\tan -45^\circ = -1$

36.  $\sec 30^\circ = \frac{2\sqrt{3}}{3}$

23.  $\cos 270^\circ = 0$   
 $\sec 270^\circ = \frac{1}{0} = \text{und}$

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

38.  $\cos 510^\circ = -\frac{\sqrt{3}}{2}$   
 $\cos 150^\circ$

39.  $\cot 90^\circ = 0$

24.  $\frac{-\sqrt{2}/2}{\sqrt{2}/2} = -1$

40.  $\tan 180^\circ = 0$

41.  $\csc -30^\circ = -2$   
 $\csc (330^\circ)$

42.  $\sin 270^\circ = -1$

26.  $\frac{-\sqrt{2}/2}{\sqrt{2}/2} = -1$

43.  $\cos 225^\circ = -\frac{\sqrt{2}}{2}$

44.  $\sin 390^\circ = \frac{1}{2}$   
 $\sin 30^\circ$

45.  $\tan 120^\circ = \sqrt{3}$

27.  $\sin 360^\circ = 0$   
 $\csc 360^\circ = \frac{1}{0} = \text{und}$

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

39.  $\frac{0}{1} = 0$

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

34.  $\sin 150^\circ = \frac{1}{2}$   
 $\csc 150^\circ = 2$

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

30.  $\cos 300^\circ = \frac{1}{2}$   
 $\sec 300^\circ = 2$

35.  $\frac{-\sqrt{2}/2}{\sqrt{2}/2} = -1$

41.  $\sin 330^\circ = -\frac{1}{2}$   
 $\csc 330^\circ = -2$

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

34.  $\cos 30^\circ = \frac{\sqrt{3}}{2}$   
 $\sec 30^\circ = \frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$

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