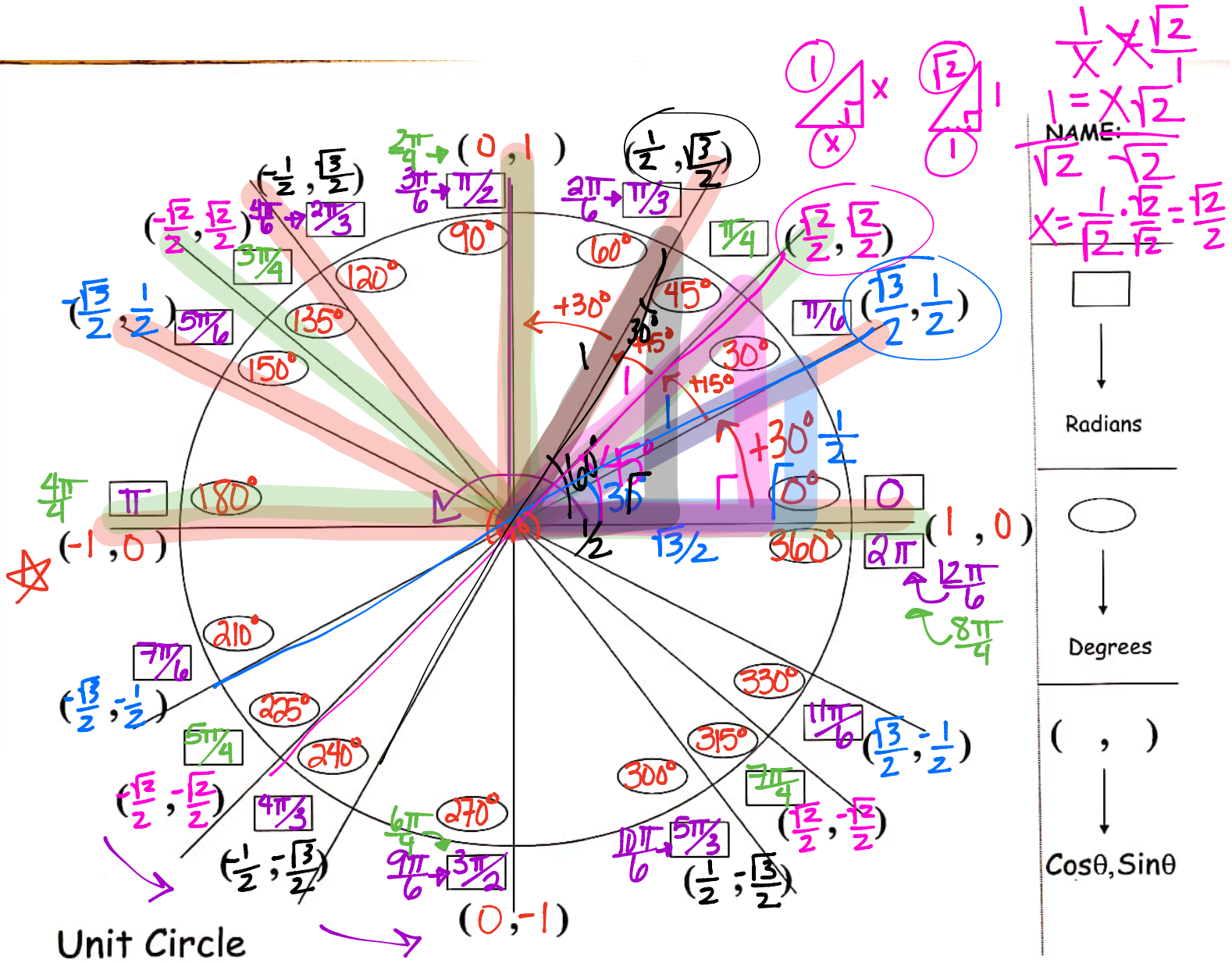


$\frac{1}{2} \div \frac{\sqrt{3}}{2} = \frac{1}{2} \times \frac{2}{\sqrt{3}} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

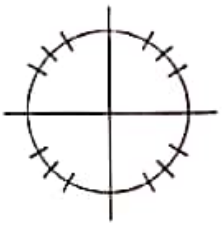
$\frac{\sqrt{3}}{2} \div \frac{1}{2} = \frac{\sqrt{3}}{2} \times \frac{2}{1} = \frac{\sqrt{3}}{1} = \sqrt{3}$

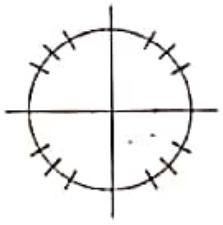
Unit Circle Worksheet

Name _____

Use the unit circle and the first quadrant chart to find the given values.

degrees θ°	0°	30°	45°	60°	90°
radians θ	0	π/6	π/4	π/3	π/2
y: sin θ	0	1/2	√2/2	√3/2	1
x: cos θ	1	√3/2	√2/2	1/2	0
y/x: tan θ	0	√3/3	1	√3	DNE





1. $\sin(45°) = \frac{\sqrt{2}}{2}$
2. $\cos(30°) = \frac{\sqrt{3}}{2}$
3. $\tan(60°) = \sqrt{3}$
4. $\sec(120°) \rightarrow \cos(120) = -\frac{1}{2} \rightarrow \frac{-2}{1} = -2$
5. $\cot(225°) = \frac{-\sqrt{2}}{2} \div \frac{-\sqrt{2}}{2} = 1$ ($\frac{x}{y}$)
6. $\csc(330°) \rightarrow \sin(330) = -\frac{1}{2} \rightarrow \frac{-2}{1} = -2$
7. $\cos(270°) = 0$
8. $\tan(90°)$
9. $\sin(180°)$
10. $\csc(-45°)$
11. $\sec(-150°)$
12. $\cot(-120°)$
13. $\tan(570°) = \tan(210)$ $570 - 360 = 210$ $-\frac{1}{2} \div \frac{-\sqrt{3}}{2} = -\frac{1}{2} \times \frac{2}{-\sqrt{3}} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$
14. $\cos(495°)$
15. $\sin(660°)$
16. $\sin\left(\frac{\pi}{6}\right) = \frac{1}{2}$
17. $\cos\left(\frac{\pi}{3}\right)$
18. $\tan\left(\frac{\pi}{4}\right)$
19. $\sec\left(\frac{3\pi}{4}\right) \rightarrow \cos\left(\frac{3\pi}{4}\right) = -\frac{\sqrt{2}}{2}$ $-\frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = -\frac{2\sqrt{2}}{2} = -\sqrt{2}$
20. $\cot\left(\frac{5\pi}{3}\right)$
21. $\csc\left(\frac{7\pi}{6}\right)$
22. $\cos\left(\frac{\pi}{2}\right)$
23. $\tan(\pi)$
24. $\sin\left(\frac{3\pi}{2}\right)$
25. $\csc\left(-\frac{2\pi}{3}\right)$
26. $\sec\left(-\frac{5\pi}{4}\right)$
27. $\cot\left(-\frac{11\pi}{6}\right)$
28. $\tan\left(\frac{11\pi}{4}\right) = \tan\left(\frac{3\pi}{4}\right)$ $\frac{11\pi}{4} - \frac{2\pi}{1} \cdot \frac{4}{4}$ $\frac{11\pi}{4} - \frac{8\pi}{4} = \frac{3\pi}{4}$ $\frac{\sqrt{2}}{2} \div \frac{-\sqrt{2}}{2} = \frac{\sqrt{2}}{2} \times \frac{-2}{\sqrt{2}} = -1$
29. $\cos\left(\frac{17\pi}{3}\right)$
30. $\sin\left(\frac{19\pi}{6}\right)$