

Quadrantal Angles – Using the Unit Circle

Key

Quadrantal Angles and the Six Trig Functions

1. $\cos(270^\circ) = \boxed{0}$
 \uparrow
 x value

2. $\csc(180^\circ) = \boxed{\text{undefined}}$
 $\frac{1}{\sin(180)} = \frac{1}{0} = \text{und}$

3. $\sec(0^\circ) = \boxed{1}$
 $\frac{1}{\cos(0)} = \frac{1}{1} = 1$

4. $\cot\left(\frac{\pi}{2}\right) = \boxed{0}$

5. $\tan(180^\circ) = \boxed{0}$

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

$\frac{\cos\left(\frac{\pi}{2}\right)}{\sin\left(\frac{\pi}{2}\right)} = \frac{0}{1} = 0$

$\frac{\sin(180)}{\cos(180)} = \frac{0}{-1}$

\uparrow
 y value

7. $\csc(0^\circ) = \boxed{\text{undefined}}$

8. $\tan\left(\frac{3\pi}{2}\right) = \boxed{\text{undefined}}$

9. $\cot\left(\frac{3\pi}{2}\right) = \boxed{0}$

$\frac{1}{\sin(0)} = \frac{1}{0} = \text{und}$

$\frac{\sin\left(\frac{3\pi}{2}\right)}{\cos\left(\frac{3\pi}{2}\right)} = \frac{-1}{0} = \text{und}$

$\frac{\cos\left(\frac{3\pi}{2}\right)}{\sin\left(\frac{3\pi}{2}\right)} = \frac{0}{-1} = 0$

10. $\sec(90^\circ) = \boxed{\text{undefined}}$ 11. $\csc(90^\circ) = \boxed{1}$

12. $\sec(0) = \boxed{1}$

$\frac{1}{\cos(90)} = \frac{1}{0} = \text{und}$

$\frac{1}{\sin(90)} = \frac{1}{1}$

$\frac{1}{\cos(0)} = \frac{1}{1}$

13. $\sin\left(\frac{\pi}{2}\right) = \boxed{1}$

\uparrow
 y value

14. $\cos(\pi) = \boxed{-1}$

\uparrow
 x value

15. $\cot(\pi) = \boxed{\text{undefined}}$

$\frac{\cos(\pi)}{\sin(\pi)} = \frac{-1}{0}$