

**Table of Trigonometric Functions – Exact Values for Special Angles**

| Angle $\theta$ |                   | Values of the trigonometric functions |                       |                       |                       |                        |                        |
|----------------|-------------------|---------------------------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|
| in degrees     | in radians        | $\sin(\theta)$                        | $\cos(\theta)$        | $\tan(\theta)$        | $\cot(\theta)$        | $\sec(\theta)$         | $\csc(\theta)$         |
| $0^\circ$      | $0$               | $0$                                   | $1$                   | $0$                   | undef.                | $1$                    | undef.                 |
| $30^\circ$     | $\frac{\pi}{6}$   | $\frac{1}{2}$                         | $\frac{\sqrt{3}}{2}$  | $\frac{\sqrt{3}}{3}$  | $\sqrt{3}$            | $\frac{2\sqrt{3}}{3}$  | $2$                    |
| $45^\circ$     | $\frac{\pi}{4}$   | $\frac{\sqrt{2}}{2}$                  | $\frac{\sqrt{2}}{2}$  | $1$                   | $1$                   | $\sqrt{2}$             | $\sqrt{2}$             |
| $60^\circ$     | $\frac{\pi}{3}$   | $\frac{\sqrt{3}}{2}$                  | $\frac{1}{2}$         | $\sqrt{3}$            | $\frac{\sqrt{3}}{3}$  | $2$                    | $\frac{2\sqrt{3}}{3}$  |
| $90^\circ$     | $\frac{\pi}{2}$   | $1$                                   | $0$                   | undef.                | $0$                   | undef.                 | $1$                    |
| $120^\circ$    | $\frac{2\pi}{3}$  | $\frac{\sqrt{3}}{2}$                  | $-\frac{1}{2}$        | $-\sqrt{3}$           | $-\frac{\sqrt{3}}{3}$ | $-2$                   | $\frac{2\sqrt{3}}{3}$  |
| $135^\circ$    | $\frac{3\pi}{4}$  | $\frac{\sqrt{2}}{2}$                  | $-\frac{\sqrt{2}}{2}$ | $-1$                  | $-1$                  | $-\sqrt{2}$            | $\sqrt{2}$             |
| $150^\circ$    | $\frac{5\pi}{6}$  | $\frac{1}{2}$                         | $-\frac{\sqrt{3}}{2}$ | $-\frac{\sqrt{3}}{3}$ | $-\sqrt{3}$           | $-\frac{2\sqrt{3}}{3}$ | $2$                    |
| $180^\circ$    | $\pi$             | $0$                                   | $-1$                  | $0$                   | undef.                | $-1$                   | undef.                 |
| $210^\circ$    | $\frac{7\pi}{6}$  | $-\frac{1}{2}$                        | $-\frac{\sqrt{3}}{2}$ | $\frac{\sqrt{3}}{3}$  | $\sqrt{3}$            | $-\frac{2\sqrt{3}}{3}$ | $-2$                   |
| $225^\circ$    | $\frac{5\pi}{4}$  | $-\frac{\sqrt{2}}{2}$                 | $-\frac{\sqrt{2}}{2}$ | $1$                   | $1$                   | $-\sqrt{2}$            | $-\sqrt{2}$            |
| $240^\circ$    | $\frac{4\pi}{3}$  | $-\frac{\sqrt{3}}{2}$                 | $-\frac{1}{2}$        | $\sqrt{3}$            | $\frac{\sqrt{3}}{3}$  | $-2$                   | $-\frac{2\sqrt{3}}{3}$ |
| $270^\circ$    | $\frac{3\pi}{2}$  | $-1$                                  | $0$                   | undef.                | $0$                   | undef.                 | $-1$                   |
| $300^\circ$    | $\frac{5\pi}{3}$  | $-\frac{\sqrt{3}}{2}$                 | $\frac{1}{2}$         | $-\sqrt{3}$           | $-\frac{\sqrt{3}}{3}$ | $2$                    | $-\frac{2\sqrt{3}}{3}$ |
| $315^\circ$    | $\frac{7\pi}{4}$  | $-\frac{\sqrt{2}}{2}$                 | $\frac{\sqrt{2}}{2}$  | $-1$                  | $-1$                  | $\sqrt{2}$             | $-\sqrt{2}$            |
| $330^\circ$    | $\frac{11\pi}{6}$ | $-\frac{1}{2}$                        | $\frac{\sqrt{3}}{2}$  | $-\frac{\sqrt{3}}{3}$ | $-\sqrt{3}$           | $\frac{2\sqrt{3}}{3}$  | $-2$                   |
| $360^\circ$    | $2\pi$            | $0$                                   | $1$                   | $0$                   | undef.                | $1$                    | undef.                 |