Exact Trig Values – Unit Circle Reference Angles

θ°	θ	cos θ	sin θ	tan θ	cot θ	csc θ	sec θ
0°	0	1	0	0	Und.	Und.	1
30°	$\frac{\pi}{6}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\sqrt{3}$	2	$\frac{2\sqrt{3}}{3}$
45°	$\frac{\pi}{4}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$	1	1	$\sqrt{2}$	$\sqrt{2}$
60°	$\frac{\pi}{3}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\sqrt{3}/2$	$\sqrt{3}/3$	$\frac{2\sqrt{3}}{2}$	2
90°	$\frac{\pi}{2}$	0	1	und.	0	1	Und.

Positive or Negative by Quadrant

Quadrant	cos θ	sin θ	tan θ	cot θ	csc θ	sec θ
I	−	+	+	+	+	+
II	−	+	✓	−	+	−
III	−	−	+	+	−	−
IV	+	−	−	−	−	+