



the wonderful world of
TRIGONOMETRY!

DEGREE° / RADIANS	SIN θ	COS θ	TAN θ	CSC θ	SEC θ	COT θ
0°	0	1	0	x	1	x
90°	$\pi / 2$	0	x	1	x	0
180°	π	-1	0	x	-1	x
270°	$3\pi / 2$	0	x	-1	x	0
360°	2π	1	0	x	1	x

30°-60°-90° triangle

30°	$\pi / 6$	1/2	$\sqrt{3} / 2$	$\sqrt{3} / 3$	2	$2\sqrt{3} / 3$	$\sqrt{3}$
150°	$5\pi / 6$	1/2	$-\sqrt{3} / 2$	$-\sqrt{3} / 3$	2	$-2\sqrt{3} / 3$	$-\sqrt{3}$
210°	$7\pi / 6$	-1/2	$-\sqrt{3} / 2$	$-\sqrt{3} / 3$	-2	$2\sqrt{3} / 3$	$\sqrt{3}$
330°	$11\pi / 6$	-1/2	$\sqrt{3} / 2$	$\sqrt{3} / 3$	-2	$-2\sqrt{3} / 3$	$-\sqrt{3}$

45°-45°-90° triangle

45°	$\pi / 4$	$\sqrt{2} / 2$	$\sqrt{2} / 2$	1	$\sqrt{2}$	$\sqrt{2}$	1
135°	$3\pi / 4$	$\sqrt{2} / 2$	$-\sqrt{2} / 2$	-1	$\sqrt{2}$	$-\sqrt{2}$	-1
225°	$5\pi / 4$	$-\sqrt{2} / 2$	$-\sqrt{2} / 2$	1	$-\sqrt{2}$	$-\sqrt{2}$	1
315°	$7\pi / 4$	$-\sqrt{2} / 2$	$\sqrt{2} / 2$	-1	$-\sqrt{2}$	$\sqrt{2}$	-1

60°-30°-90° triangle

60°	$\pi / 3$	$\sqrt{3} / 2$	1/2	$\sqrt{3}$	$2\sqrt{3} / 3$	2	$\sqrt{3} / 3$
120°	$2\pi / 3$	$\sqrt{3} / 2$	-1/2	$-\sqrt{3}$	$-2\sqrt{3} / 3$	-2	$-\sqrt{3} / 3$
240°	$4\pi / 3$	$-\sqrt{3} / 2$	-1/2	$\sqrt{3}$	$2\sqrt{3} / 3$	2	$\sqrt{3} / 3$
300°	$5\pi / 3$	$-\sqrt{3} / 2$	1/2	$-\sqrt{3}$	$-2\sqrt{3} / 3$	-2	$-\sqrt{3} / 3$

	DEGREE° / RADIANS	SIN θ	COS θ	TAN θ	CSC θ	SEC θ	COT θ
Quadrant I	0°	0	1	0	x	1	x
	30°	$\pi / 6$	$1 / 2$	$\sqrt{3} / 2$	$\sqrt{3} / 3$	2	$2\sqrt{3} / 3$
	45°	$\pi / 4$	$\sqrt{2} / 2$	$\sqrt{2} / 2$	1	$\sqrt{2}$	1
	60°	$\pi / 3$	$\sqrt{3} / 2$	$1 / 2$	$\sqrt{3}$	$2\sqrt{3} / 3$	2

	DEGREE° / RADIANS	SIN θ	COS θ	TAN θ	CSC θ	SEC θ	COT θ
Quadrant II	90°	$\pi / 2$	1	0	x	1	x
	120°	$2\pi / 3$	$\sqrt{3} / 2$	$-1 / 2$	$-\sqrt{3}$	$2\sqrt{3} / 3$	-2
	135°	$3\pi / 4$	$\sqrt{2} / 2$	$-\sqrt{2} / 2$	-1	$\sqrt{2}$	$-\sqrt{2}$
	150°	$5\pi / 6$	$1 / 2$	$-\sqrt{3} / 2$	$-\sqrt{3} / 3$	2	$-2\sqrt{3} / 3$

	DEGREE° / RADIANS	SIN θ	COS θ	TAN θ	CSC θ	SEC θ	COT θ
Quadrant III	180°	π	0	-1	0	x	-1
	210°	$7\pi / 6$	$-1 / 2$	$-\sqrt{3} / 2$	$\sqrt{3} / 3$	-2	$-2\sqrt{3} / 3$
	225°	$5\pi / 4$	$-\sqrt{2} / 2$	$-\sqrt{2} / 2$	1	$-\sqrt{2}$	$-\sqrt{2}$
	240°	$4\pi / 3$	$-\sqrt{3} / 2$	$-1 / 2$	$\sqrt{3}$	$-2\sqrt{3} / 3$	-2

	DEGREE° / RADIANS	SIN θ	COS θ	TAN θ	CSC θ	SEC θ	COT θ
Quadrant IV	270°	$3\pi / 2$	-1	0	x	-1	x
	300°	$5\pi / 3$	$-\sqrt{3} / 2$	$1 / 2$	$-\sqrt{3}$	$-2\sqrt{3} / 3$	2
	315°	$7\pi / 4$	$-\sqrt{2} / 2$	$\sqrt{2} / 2$	-1	$-\sqrt{2}$	$\sqrt{2}$
	330°	$11\pi / 6$	$-1 / 2$	$\sqrt{3} / 2$	$-\sqrt{3} / 3$	-2	$2\sqrt{3} / 3$
	360°	2π	0	1	0	x	1