



S/A
T/C

Trigonometric Special Angles (Multiples of 30 and 45 degrees)

Name _____ Date _____ Score _____

Degrees	Radians	Quadrant or Axis	Sketch	Reference Angle	Sin	Cos	Tan	Csc	Sec	Cot
0°	0	Axis		None	0	1	0	UND	1	UND
30°	$\frac{\pi}{6}$	I		none of 30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$	$\frac{2}{1}$	$\frac{2}{\sqrt{3}}$	$\frac{\sqrt{3}}{1}$
45°	$\frac{\pi}{4}$	I		none or 45°	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	1	$\sqrt{2}$	$\sqrt{2}$	1
60°	$\frac{\pi}{3}$	I		none or 60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{1}$	$\frac{2}{\sqrt{3}}$	$\frac{2}{1}$	$\frac{1}{\sqrt{3}}$
90° (0,1)	$\frac{\pi}{2}$	Axis		none	1	0	und	1	und	0
120°	$\frac{2\pi}{3}$	II		60°	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{1}$	$\frac{2}{\sqrt{3}}$	$-\frac{2}{1}$	$-\frac{1}{\sqrt{3}}$
135°	$\frac{3\pi}{4}$	II		45°	$\frac{1}{\sqrt{2}}$	$-\frac{1}{\sqrt{2}}$	-1	$-\sqrt{2}$	$-\sqrt{2}$	-1
150°	$\frac{5\pi}{6}$	II		30°	$\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$\frac{1}{-\sqrt{3}}$	2	$\frac{2}{-\sqrt{3}}$	$-\sqrt{3}$
180° (-1,0)	π	Axis		none	0	-1	0	und	-1	und
210°	$\frac{7\pi}{6}$	III		30°	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$	$-\frac{2}{1}$	$-\frac{2}{\sqrt{3}}$	$\frac{\sqrt{3}}{1}$
225°	$\frac{5\pi}{4}$	III		45°	$-\frac{1}{\sqrt{2}}$	$-\frac{1}{\sqrt{2}}$	1	$-\sqrt{2}$	$-\sqrt{2}$	1

$\frac{S}{A}$
 $\frac{T}{C}$

Degrees	Radians	Quadrant or Axis	Sketch	Reference Angle	Sin	Cos	Tan	Csc	Sec	Cot
240°	$\frac{4\pi}{3}$	III		60°	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$\frac{\sqrt{3}}{1}$	$-\frac{2}{\sqrt{3}}$	$-\frac{2}{1}$	$\frac{1}{\sqrt{3}}$
270° (0, -1)	$\frac{3\pi}{2}$	Axis		none	-1	0	und	-1	und	0
300°	$\frac{5\pi}{3}$	IV		60°	$-\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$-\frac{\sqrt{3}}{1}$	$-\frac{2}{\sqrt{3}}$	$\frac{2}{1}$	$-\frac{1}{\sqrt{3}}$
315°	$\frac{7\pi}{4}$	IV		45°	$-\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	-1	$-\sqrt{2}$	$\sqrt{2}$	-1
330°	$\frac{11\pi}{6}$	IV		30°	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{1}{\sqrt{3}}$	$-\frac{2}{1}$	$\frac{2}{\sqrt{3}}$	$-\frac{\sqrt{3}}{1}$
360° (1, 0)	2π	Axis		none	0	1	0	und	1	und
390°	$\frac{13\pi}{6}$	I		30°	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$	$\frac{2}{1}$	$\frac{2}{\sqrt{3}}$	$\frac{\sqrt{3}}{1}$
405°	$\frac{9\pi}{4}$	I		45°	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	1	$\sqrt{2}$	$\sqrt{2}$	1
420°	$\frac{7\pi}{3}$	I		60°	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{1}$	$\frac{2}{\sqrt{3}}$	$\frac{2}{1}$	$\frac{1}{\sqrt{3}}$
450° (0, 1)	$\frac{5\pi}{2}$	Axis		none	1	0	und	1	und	0
540° (-1, 0)	3π	Axis		none	0	-1	0	und	-1	und

