

Here is a chart which lists the values of the trig functions at the special angles in the first quadrant.

To succeed in future math classes, you must either have these values memorized or be able to compute these quickly (quickly means in less than 15 seconds).

There are ways to remember this chart without memorizing the whole thing, however. (See the reverse side of this page.)

θ (degrees)	0°	30°	45°	60°	90°
θ (radians)	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
$\sin \theta$	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	undefined
$\cot \theta = \frac{1}{\tan \theta}$	undefined	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	0
$\csc \theta = \frac{1}{\sin \theta}$	undefined	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$	1
$\sec \theta = \frac{1}{\cos \theta}$	1	$\frac{2}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$	$\sqrt{2}$	2	undefined

Ways to reproduce this chart without memorizing the whole thing:

- Notice that:
 - The sine row, read left to right, has the same numbers as the cosine row, read right to left.
 - The tangent row, read left to right, has the same numbers as the cotangent row, read right to left.
 - The secant row, read left to right, has the same numbers as the cosecant row, read right to left.
- If you remember the reciprocal identities:

$$\csc \theta = \frac{1}{\sin \theta} \quad ; \quad \sec \theta = \frac{1}{\cos \theta} \quad ; \quad \cot \theta = \frac{1}{\tan \theta}$$

then you only have to remember the sine row, the cosine row and the tangent row (the other three rows are the reciprocals of these).

- The sine row is this list of numbers, which follows a pattern:

$$\frac{\sqrt{0}}{2} \quad \frac{\sqrt{1}}{2} \quad \frac{\sqrt{2}}{2} \quad \frac{\sqrt{3}}{2} \quad \frac{\sqrt{4}}{2}$$

If you don't want to memorize this chart at all, you should practice drawing $45^\circ - 45^\circ - 90^\circ$ and $30^\circ - 60^\circ - 90^\circ$ triangles and labelling the sides.