# Trigonometric Hand Trick

This is an easy way to remember the values of common values of trigonometric functions in the first quadrant. It's a lengthy explanation, but once you know this by heart, you can use this trick for all four quadrants. All you need is your non-dominant hand.

Step 1: Hold out your non-dominant hand.

Step 2: "Assign" the following values to your fingers.

If your non-dominant hand is your left hand…

If your non-dominant hand is your right hand…
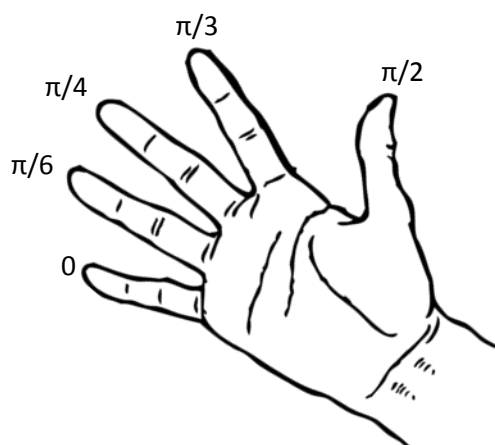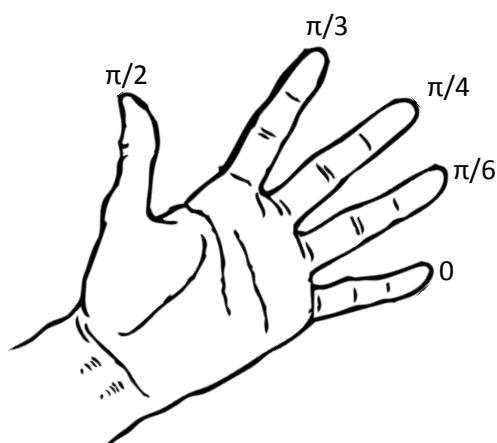
Step 3: Find a trig problem.

For example: cos (π/6)

Step 4: Hold down the finger assigned for that angle.

For example: Hold down your ring finger for π/6.

Step 5: Know the following formulas.

$$\sin \theta = \frac{\sqrt{bottom\ fingers}}{2} \qquad \cos \theta = \frac{\sqrt{top\ fingers}}{2} \qquad \tan \theta = \frac{\sqrt{bottom\ fingers}}{\sqrt{top\ fingers}}$$

"Bottom fingers" refer to how many fingers are "below" the finger you've held down. "Top fingers" refer to how many fingers "above" the finger you've held down. Your thumb counts.

Step 6: Calculate the values for your trig expression using the appropriate formula.

For example: When you hold down your ring finger, there is *1* finger below your ring finder (your pinkie), and there are *3* fingers above your ring finger (your thumb, your index finger, and your middle finger.) Therefore, cos (π/6) $= \frac{\sqrt{3}}{2}$. If you need sine, sin (π/6) $= \frac{\sqrt{1}}{2} = \frac{1}{2}$.