Known some trigonometric ratio of one angle, we can easily calculate the rest through the following relationships:

1. $\sin^2 \alpha + \cos^2 \alpha = 1$
2. $1 + \tan^2 \alpha = \dfrac{1}{\cos^2 \alpha} = \sec^2 \alpha$

So, if we want to know the trigonometric ratios of one angle α, we only need to know one of them and the quadrant where the angle is.

Let's suppose we have an angle α and we know that sin⁡α=12 and that it belongs to the first quadrant, then it's quite easy to calculate its tangent and its cosine.

We only need to do the following:

$$\sin^2 \alpha + \cos^2 \alpha = 1 \Rightarrow \frac{1}{4} + \cos^2 \alpha = 1 \Rightarrow \cos^2 = \frac{3}{4} \Rightarrow$$

$$\Rightarrow \cos \alpha = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2}$$

$$1 + \tan^2 \alpha = \frac{1}{\cos^2 \alpha} \Rightarrow \tan^2 \alpha = \frac{1}{\frac{3}{4}} - 1 = \frac{4}{3} - 1 = \frac{1}{3} \Rightarrow$$

$$\Rightarrow \tan \alpha = \sqrt{\frac{1}{3}} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$