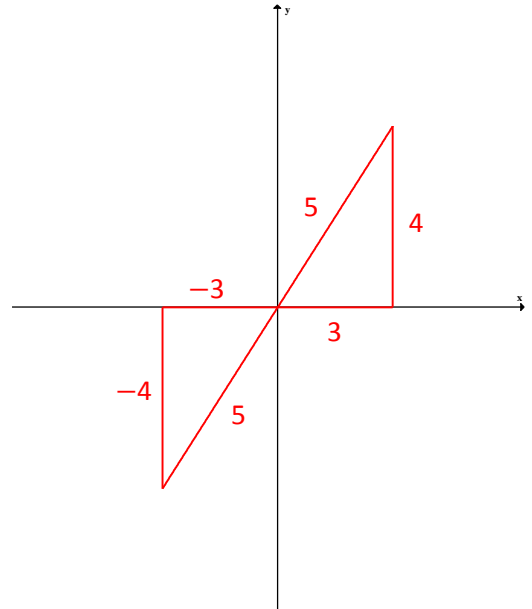


1) If $\tan(\theta) = \frac{3}{4}$, what is $\cos(\theta)$? Illustrate this on the axis provided.

We can construct two possible triangles, both with the same reference angle (shown to the right).

In one case $\cos(\theta) = \frac{4}{5}$, in the other case $\cos(\theta) = -\frac{4}{5}$.

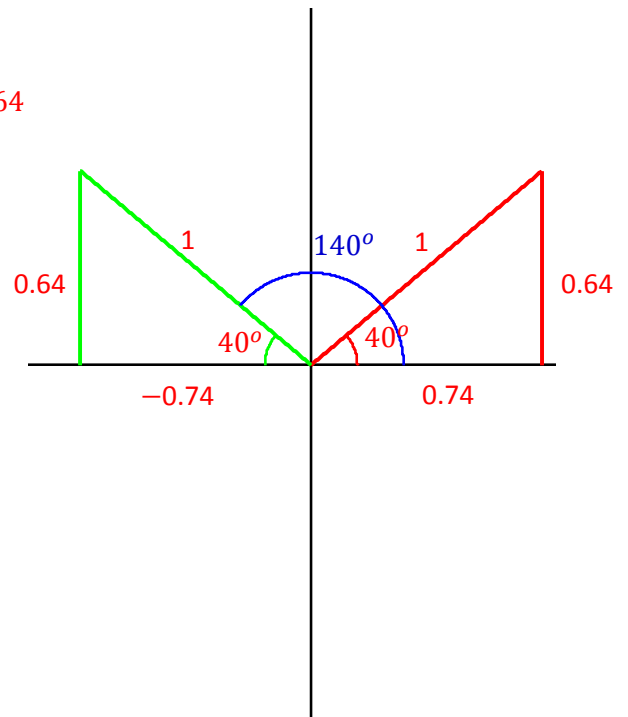
Hence $\cos(\theta) = \pm \frac{4}{5}$



2) If $\sin(40^\circ) = 0.64$, what is $\sin(140^\circ)$? Illustrate this on the axis provided.

Here we first construct the reference triangle for 40° , and then we move it over for a 140° angle.

From this new triangle we see that $\sin(140^\circ) = \frac{0.64}{1} = 0.64$



Bonus) If $\sin(40^\circ) = 0.64$, what is $\sin(130^\circ)$? Illustrate this on the axis provided.

This is very similar to the problem with 140° , but now we need to flip the orientation of the green triangle:

Then we see that $\sin(130^\circ) = \frac{0.74}{1} = 0.74$

