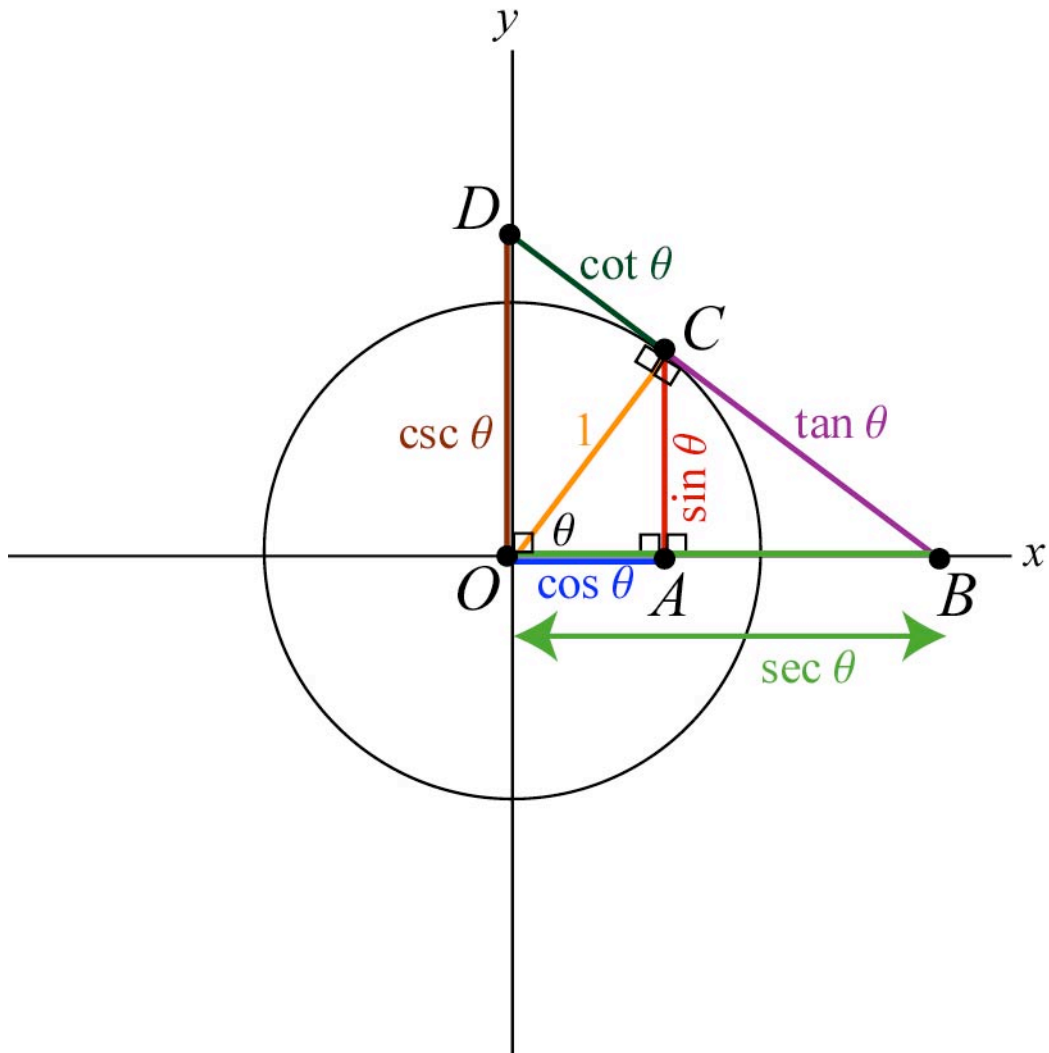


# VISUALIZING THE SIX BASIC TRIG FUNCTIONS

Can you see why the relationships below hold?

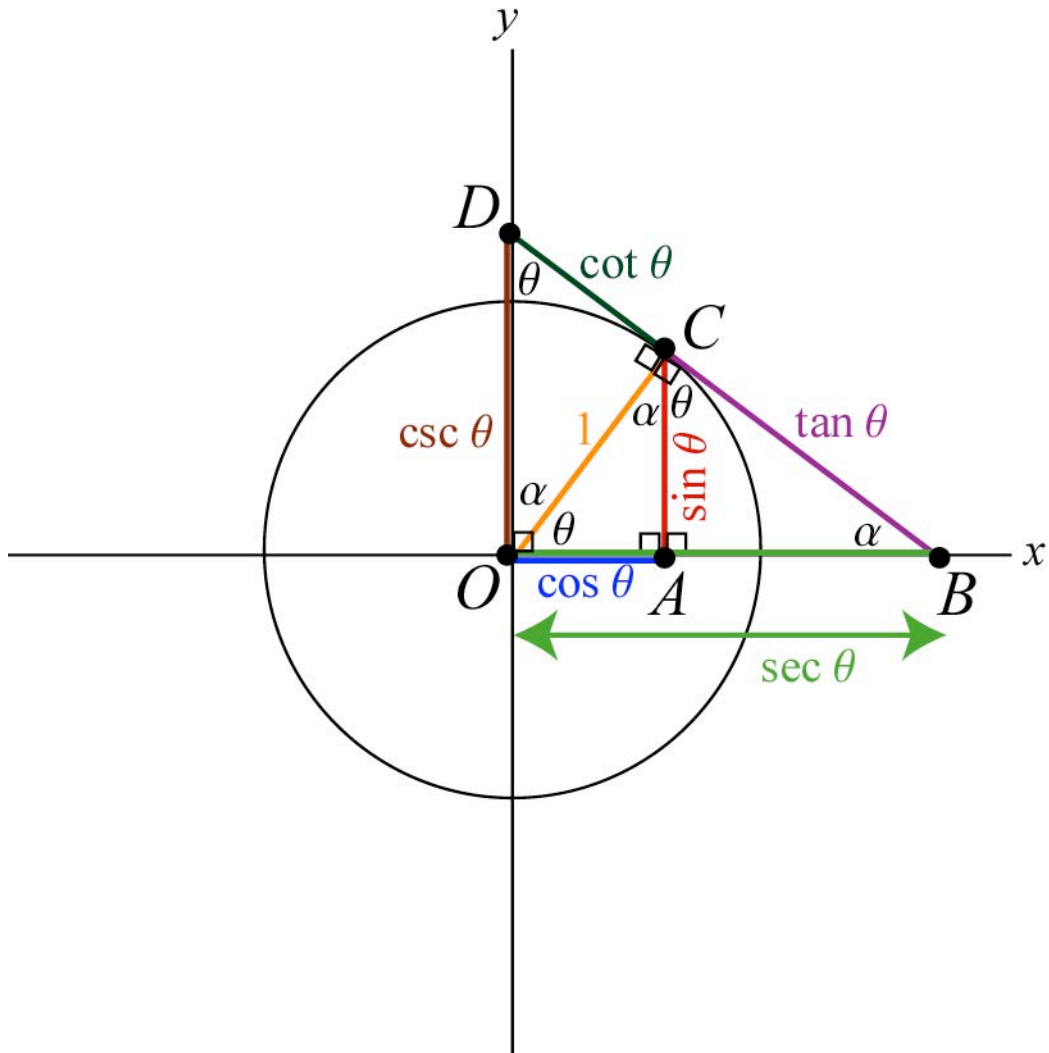


Need some hints? Consider:

- Complementary angles
- Similar triangles
- SOH-CAH-TOA
- Pythagorean IDs

Need more hints? Read on ....

Let  $\alpha$  be the complement of  $\theta$ . We then have the following picture:



Observe that we have several similar triangles here! They have the same proportions among their corresponding pairs of sides.

Again, SOH-CAH-TOA and Pythagorean IDs can help.

Note:  $\tan \frac{\pi}{2}$  is undefined. How is that borne out by the picture?