

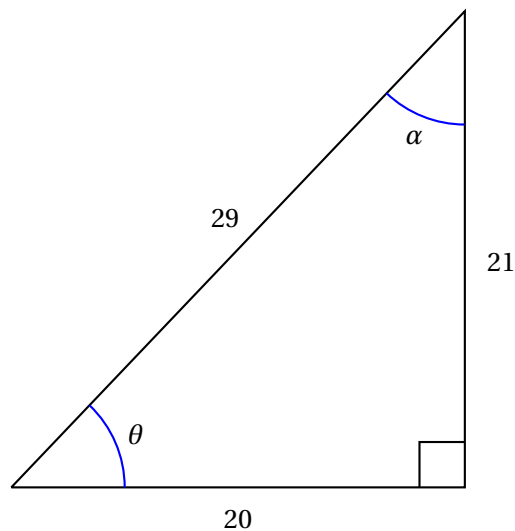
Section 2.1

Right Triangle Definition of Trigonometric Functions

USING THE DEFINITION

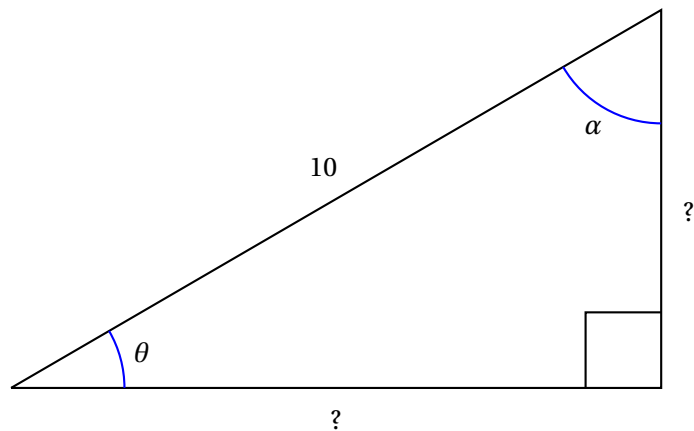
1. Fill in the table of trigonometric function values for the complementary angles θ and α .

$\sin \theta$		$\sin \alpha$	
$\cos \theta$		$\cos \alpha$	
$\tan \theta$		$\cos \alpha$	
$\csc \theta$		$\csc \alpha$	
$\sec \theta$		$\csc \alpha$	
$\cot \theta$		$\cot \alpha$	



2. Fill in the missing sides to the right triangle and then use this to fill in the missing values for the trigonometric function values.

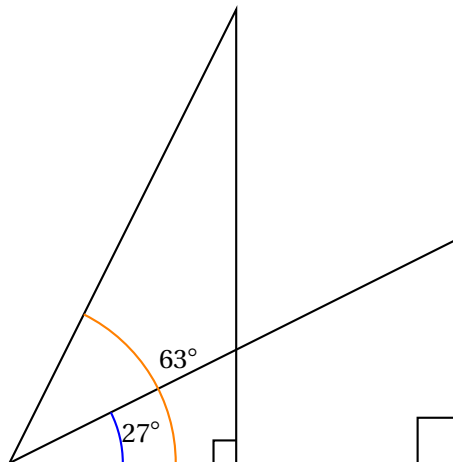
$\sin \theta$	$\frac{1}{2}$	$\sin \alpha$	
$\cos \theta$		$\cos \alpha$	
$\tan \theta$		$\cos \alpha$	
$\csc \theta$		$\csc \alpha$	
$\sec \theta$		$\csc \alpha$	
$\cot \theta$		$\cot \alpha$	



INCREASING OR DECREASING

3. Consider the two triangles below. Determine the relationship between the trigonometric functions for two given degrees. Just to be clear, both triangles have the same hypotenuse (for illustrative purposes).

$\sin 27^\circ$		$\sin 63^\circ$
$\cos 27^\circ$		$\cos 63^\circ$
$\tan 27^\circ$		$\cos 63^\circ$
$\csc 27^\circ$		$\csc 63^\circ$
$\sec 27^\circ$		$\csc 63^\circ$
$\cot 27^\circ$		$\cot 63^\circ$



4. Determine the relationship between the following trigonometric functions. For now we are focusing only on comparing the *same* trigonometric functions in the *same* quadrant. But sometimes we can compare different trigonometric functions in the same quadrant if we recall the *complementary identities*.

$\sin 40^\circ$		$\sin 35^\circ$	$\cos 110^\circ$		$\cos 163^\circ$	$\tan 230^\circ$		$\tan 195^\circ$
$\sin 30^\circ$		$\cos 30^\circ$	$\cos 110^\circ$		$\sin 120^\circ$	$\tan 120^\circ$		$\cot 150^\circ$