FST Name _____

5-1 Trig Ratios in Rt Triangles Date _____ **A#1**

Goal: Know and use the definitions of sine, cosine and tangent as ratios of sides of a right triangle.

Warm Up: What does the acronym SohCahToa stand for?

Questions

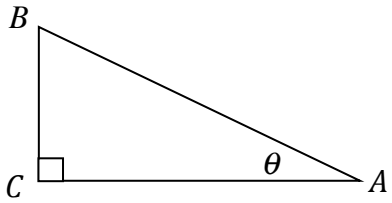
Review

Given that ΔABC is a right triangle, the **sine**, **cosine**, and **tangent** can be defined as follows:

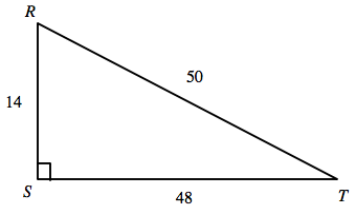
Soh: $\sin\theta =$ _____ $=$ ____

Cah: $\cos\theta =$ _____ $=$ ____

Toa: $\tan\theta =$ _____ $=$ ____



Example 1: Calculate $\sin T$, $\cos T$ and $\tan T$ of the following triangle.



Example 2:

In $\triangle DEF$, $\angle D$ is a right angle. If $DF = 40$ and $EF = 41$, find:

a. $\sin E$.

b. $\cos E$.

c. $\tan E$.

Questions	Example 3: Sonar on a salvage boat locates an object at a downward angle of 50º and a distance of 510 meters. How far below the level of the water is the object? a. Make a diagram b. Label diagram c. Set up trig ratios and solve Example 4: The 60-meter-long sting of a kite you are flying is being pulled taut by the wind and makes an angle of 68º with the ground. How far from you would a person be if that person is directly underneath the kite? **Vocabulary:** angle of depression: angle of elevation: Example 5: A woman wants to estimate the height of a silo. She walks 60 feet from the silo and estimates the angle of elevation to be 38º to see the top. If her eyes are 5'3" from the ground, how tall is the silo?

Summary: