

Geometry 2/27/17

- Answer Questions on 7.4 Special Right Triangles
- Complete Finding Trigonometric Ratios Notes
- Complete Special Right Triangle Worksheet and Trig Ratio Worksheets.

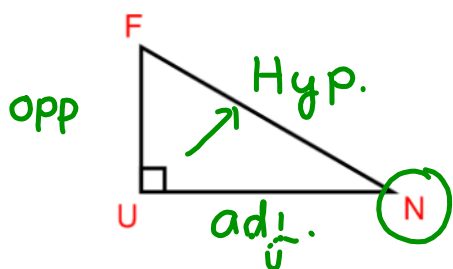
Geometry 1.2
Class-Notes

Name _____
Date _____ Period _____

7.5 – 7.6 : Trigonometry – Day 1

Right Triangle Trigonometry – It is used to find missing sides or angles in RIGHt triangles.

Label the parts of the right triangle: In right triangle FUN, label the **hypotenuse**. Then, starting from angle N, label the side **opposite** of angle N and **adjacent** to angle N.



Trigonometric Ratios

$$\sin \angle = \frac{\text{opposite}}{\text{Hypotenuse}}$$

Sine

$$\cos \angle = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

Cosine

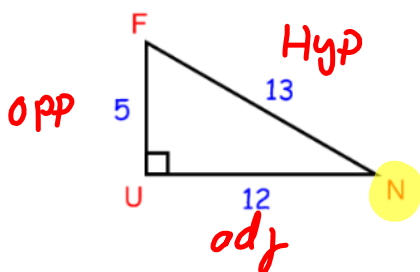
$$\tan \angle = \frac{\text{opposite}}{\text{Adjacent}}$$

Tangent

SOH CAH TOA is a mnemonic device used to help remember the 3 basic trig ratios: **Sine**, **Cosine**, and **Tangent**. Each letter stands for a word of the trigonometric ratios.

~~S=O/H~~ ~~CAH~~ ~~TO/A~~

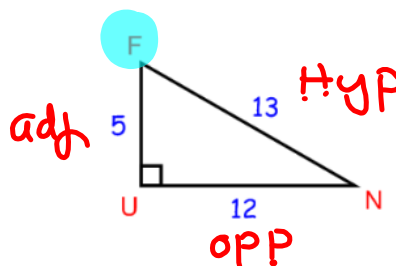
Example 1: Find the ratios for each of the following:



$$\sin N = \frac{O}{H} = \frac{5}{13}$$

$$\cos N = \frac{A}{H} = \frac{12}{13}$$

$$\tan N = \frac{O}{A} = \frac{5}{12}$$



$$\sin F = \frac{O}{H} = \frac{12}{13}$$

$$\cos F = \frac{A}{H} = \frac{5}{13}$$

$$\tan F = \frac{O}{A} = \frac{12}{5}$$

1. What do you notice about the Sin N and the Cos F?
2. What do you notice about the Cos N and the Sin F?
3. What do you notice about the Tan N and the Tan F?

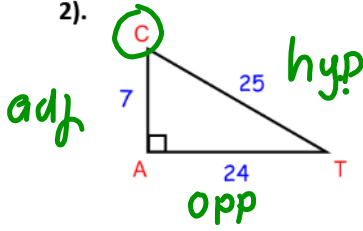
they are the same ratio.
they are the same ratio.
they are reciprocals of each other.

Find the ratios for each of the following: Make sure to label the H, O, and A before you set up your ratios!

NOTE: All ratios must be in simplified form

~~S=O/H~~ ~~C=A/H~~ ~~T=O/A~~

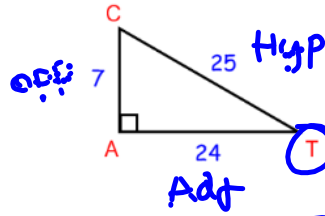
2).



$$\sin C = \frac{O}{H} = \frac{24}{25}$$

$$\cos C = \frac{A}{H} = \frac{7}{25}$$

$$\tan C = \frac{O}{A} = \frac{24}{7}$$

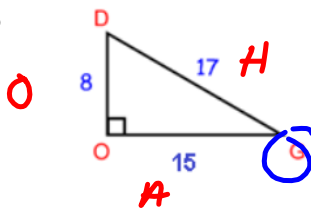


$$\sin T = \frac{O}{H} = \frac{7}{25}$$

$$\cos T = \frac{A}{H} = \frac{24}{25}$$

$$\tan T = \frac{O}{A} = \frac{7}{24}$$

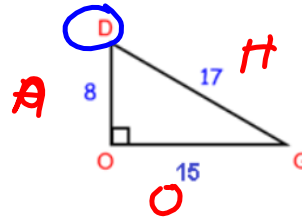
3).



$$\sin G = \frac{O}{H} = \frac{8}{17}$$

$$\cos G = \frac{A}{H} = \frac{15}{17}$$

$$\tan G = \frac{O}{A} = \frac{8}{15}$$

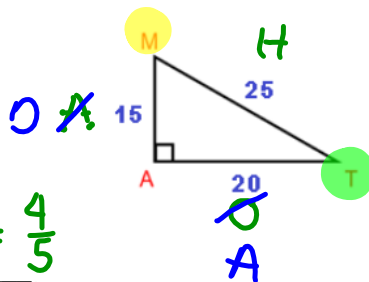


$$\sin D = \frac{O}{H} = \frac{15}{17}$$

$$\cos D = \frac{A}{H} = \frac{8}{17}$$

$$\tan D = \frac{O}{A} = \frac{15}{8}$$

4).



$$\sin M = \frac{O}{H} = \frac{20}{25} = \frac{4}{5}$$

$$\cos M = \frac{A}{H} = \frac{15}{25} = \frac{3}{5}$$

$$\tan M = \frac{O}{A} = \frac{20}{15} = \frac{4}{3}$$

$$\sin T = \frac{O}{H} = \frac{15}{25} = \frac{3}{5}$$

$$\cos T = \frac{A}{H} = \frac{20}{25} = \frac{4}{5}$$

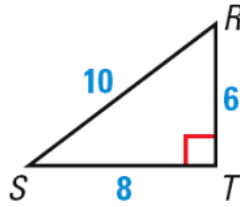
$$\tan T = \frac{O}{A} = \frac{15}{20} = \frac{3}{4}$$

Assignment:

Find the ratios for each of the following: Make sure to label the H, O, and A before you set up your ratios!

NOTE: All ratios must be in simplified form.

1).



Sin R = _____

Sin S = _____

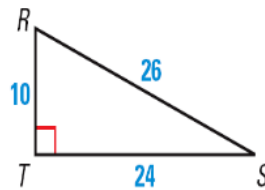
Cos R = _____

Cos S = _____

Tan R = _____

Tan S = _____

2).



Sin R = _____

Sin S = _____

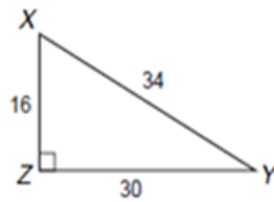
Cos R = _____

Cos S = _____

Tan R = _____

Tan S = _____

3).



Sin X = _____

Sin Y = _____

Cos X = _____

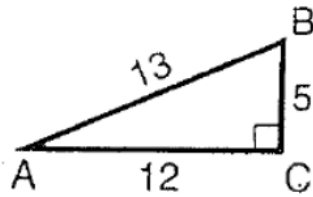
Cos Y = _____

Tan X = _____

Tan Y = _____

Find the ratios for each of the following: Make sure to label the H, O, and A before you set up your ratios!
NOTE: All ratios must be in simplified form.

4).



Sin A = _____

Sin B = _____

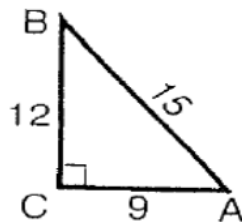
Cos A = _____

Cos B = _____

Tan A = _____

Tan B = _____

5).



Sin A = _____

Sin B = _____

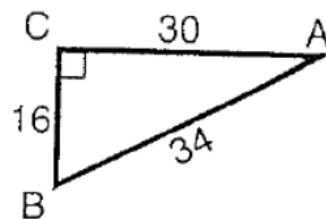
Cos A = _____

Cos B = _____

Tan A = _____

Tan B = _____

6).



Sin A = _____

Sin B = _____

Cos A = _____

Cos B = _____

Tan A = _____

Tan B = _____