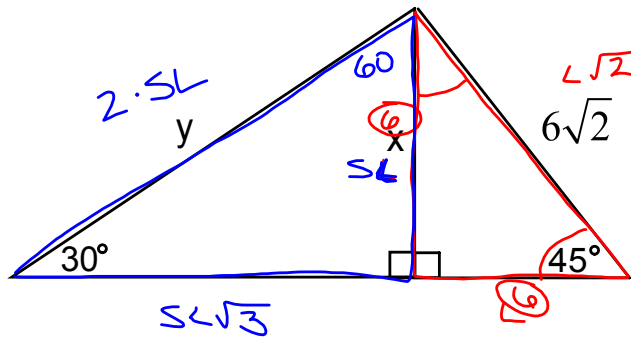


**DO NOW**Find the value of  $x$  and  $y$ 

$$x = 6$$

$$y = 12$$

Mar 9-10:40 AM

Trigonometry of the right triangle

A trigonometric ratio is a ratio of the lengths of two sides of a right triangle

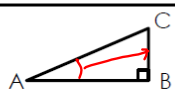
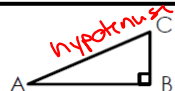
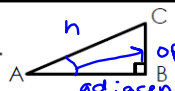
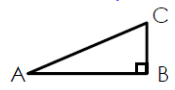
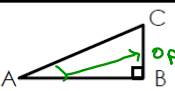
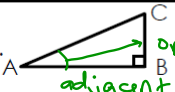
The three trigonometric ratios are:

sine (sin)

cosine (cos)

tangent (tan)

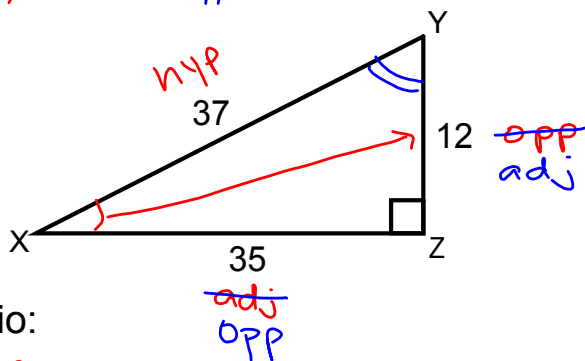
Dec 18-9:57 AM

<b>S</b> ine $\frac{\text{OPP}}{\text{hyp}}$	$\sin \angle A = \frac{\text{Side opposite } \angle A \rightarrow CB}{\text{hypotenuse} \rightarrow AC}$
<b>O</b> pposite	The leg OPPOSITE $\angle A$ is <u>CB</u> . 
<b>h</b> ypotenuse	The HYPOTENUSE is <u>AC</u> . 
<b>C</b> osine $\frac{\text{adj}}{\text{hyp}}$	$\cos \angle A = \frac{\text{side adjacent to } \angle A}{\text{hypotenuse}}$
<b>A</b> djacent	The leg ADJACENT to $\angle A$ is <u>AB</u> . 
<b>h</b> ypotenuse	The HYPOTENUSE is <u>AC</u> . 
<b>T</b> angent $\frac{\text{OPP}}{\text{adj}}$	$\tan \angle A = \frac{\text{side opposite } \angle A}{\text{Side adjacent to } \angle A}$
<b>O</b> pposite	The leg OPPOSITE $\angle A$ is <u>CB</u> . 
<b>A</b> djacent	The leg ADJACENT to $\angle A$ is <u>AB</u> . 

Dec 18-10:06 AM

To remember these ratios, use:

**SOH**      **CAH**      **TOA**  
 $S \frac{O}{H}$        $C \frac{A}{H}$        $T \frac{O}{A}$



Write the ratio:

a)  $\sin X = \frac{12}{37}$

b)  $\cos X = \frac{35}{37}$

c)  $\tan X = \frac{12}{35}$

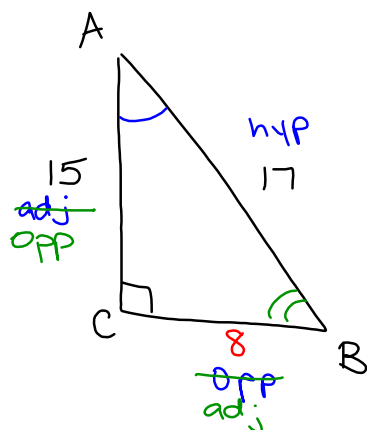
d)  $\sin Y = \frac{35}{37}$

e)  $\cos Y = \frac{12}{37}$

f)  $\tan Y = \frac{35}{12}$

Dec 18-10:11 AM

In triangle ABC,  $AB = 17$ ,  $AC = 15$  and  $m\angle C = 90^\circ$ . What is the value of  $\tan A$ ?  
What is the value of  $\sin B$ ?



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

$$\sin B = \frac{15}{17}$$

$$a^2 + 15^2 = 17^2$$

$$a^2 + 225 = 289$$

$$a^2 = 64$$

$$a = 8$$

Dec 22-9:54 AM