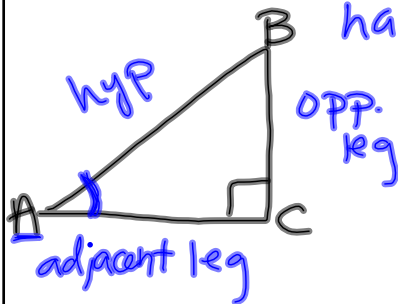


13.1 Right Triangle Trigonometry

- Obj: 1. Find trig. fncs. of acute angles.
 2. Solve right Δs using trig. fncs.



has a $90^\circ <$

$$\sin A = \frac{\text{opp}}{\text{hyp}}$$

$$\cos A = \frac{\text{adj}}{\text{hyp}}$$

$$\tan A = \frac{\text{opp}}{\text{adj}}$$

cosecant

$$\csc A = \frac{\text{hyp}}{\text{opp}}$$

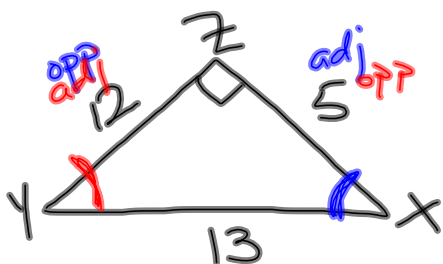
$$\sec A = \frac{\text{hyp}}{\text{adj}}$$

$$\cot A = \frac{\text{adj}}{\text{opp}}$$

"Soh Cah Toa"

Mar 1-10:51 AM

Find the values of the 6 trig. fncs. of $\angle X$.
 Round to the nearest ten-thousandth.



$$\sin X = \frac{12}{13} \approx .9231$$

$$\cos X = \frac{5}{13} \approx .3846$$

$$\tan X = \frac{12}{5} \approx 2.4$$

$$\csc X = \frac{13}{12} \approx 1.0833$$

$$\sec X = \frac{13}{5} \approx 2.6$$

$$\cot X = \frac{5}{12} \approx .4167$$

$$\sin Y = \frac{\text{hyp}}{13}$$

$$\cos Y = \frac{12}{13}$$

$$\tan Y = \frac{5}{12}$$

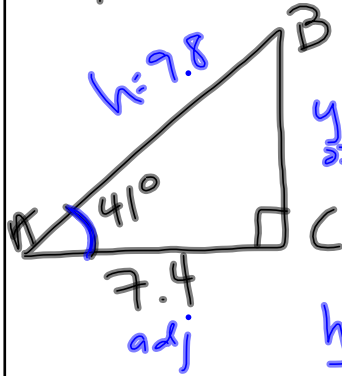
$$\csc Y = \frac{13}{5}$$

$$\sec Y = \frac{13}{12}$$

$$\cot Y = \frac{12}{5}$$

Mar 1-10:59 AM

Find the missing side lengths. Round to the nearest tenth.



$$7.4 \tan 41^\circ = \frac{y}{7.4}$$

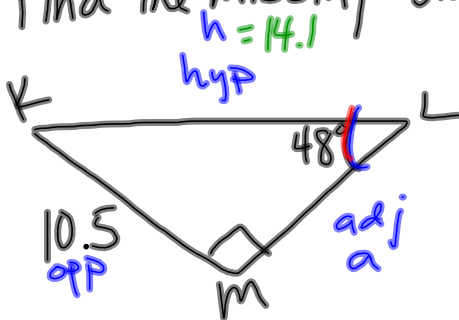
$$y = 7.4 \tan 41^\circ = 6.4$$

$$\frac{h \cos 41^\circ}{\cos 41^\circ} = \frac{7.4}{\cos 41^\circ}$$

$$h = \frac{7.4}{\cos 41^\circ} \approx 9.8$$

Mar 1-11:09 AM

Find the missing side lengths. Round to nearest tenth.



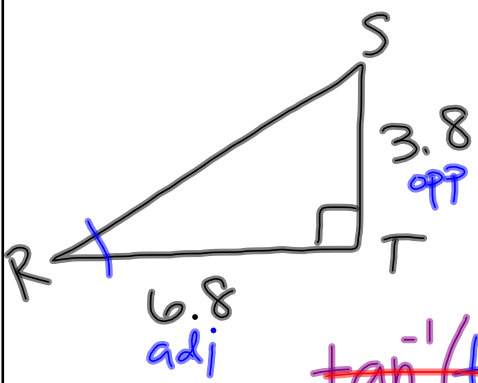
$$\frac{a \tan 48^\circ}{\tan 48^\circ} = \frac{10.5}{\tan 48^\circ}$$

$$a = \frac{10.5}{\tan 48^\circ} \approx 9.5$$

$$\frac{h \sin 48^\circ}{\sin 48^\circ} = \frac{10.5}{\sin 48^\circ}$$

$$h = \frac{10.5}{\sin 48^\circ} \approx 14.1$$

Mar 1-11:14 AM



Find $m\angle R$.

$$\cancel{\tan^{-1}(\tan R)} = \tan^{-1}\left(\frac{3.8}{6.8}\right)$$
$$R = \tan^{-1}\left(\frac{3.8}{6.8}\right) \approx 29.2^\circ$$

Mar 1-11:20 AM