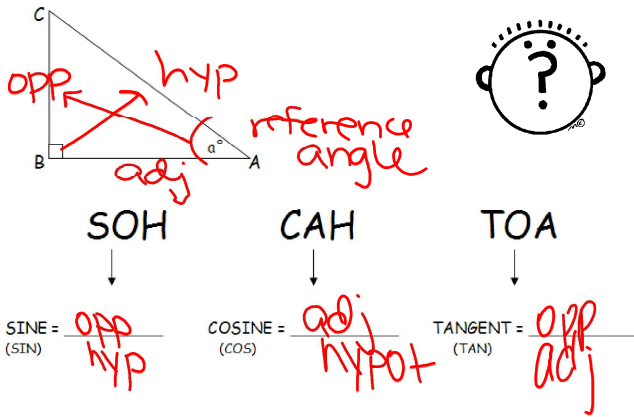
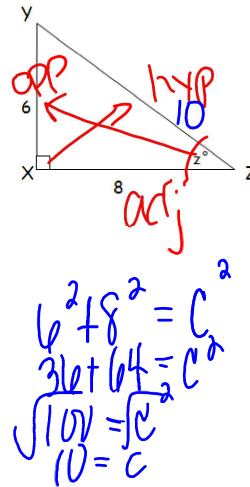


Objectives: You will be able to use the trig functions to find missing sides and angles.



May 14-10:36 AM



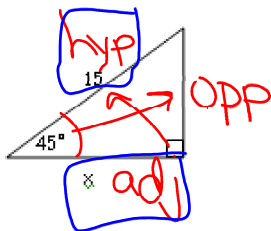
$$\sin(z) = \frac{\text{opp}}{\text{hyp}} = \frac{6}{10} = \frac{3}{5}$$

$$\cos(z) = \frac{\text{adj}}{\text{hyp}} = \frac{8}{10} = \frac{4}{5}$$

$$\tan(z) = \frac{\text{opp}}{\text{adj}} = \frac{6}{8} = \frac{3}{4}$$

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Example 1: Find x. SOH CAH TOA



$$\cos 45 = \frac{x}{15}$$

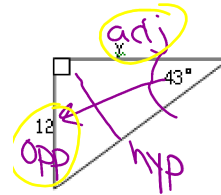
$$\downarrow$$

$$0.71 = \frac{x}{15}$$

$$x = 10.61$$

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Example 2: Find y. SOH CAH TOA



$$\tan 43 = \frac{12}{y}$$

$$\downarrow$$

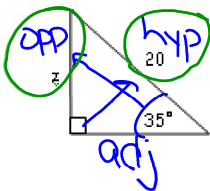
$$0.93 = \frac{12}{y}$$

$$\frac{0.93y}{0.93} = \frac{12}{0.93}$$

$$y = 12.90$$

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Example 3: Find z. SOH CAH TOA



$$\sin 35 = \frac{z}{20}$$

$$\downarrow$$

$$0.57 = \frac{z}{20}$$

$$z = 11.47$$

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**Using the inverse of the trig function

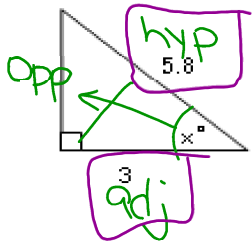
allows you to solve for the angle measure!!

\sin
 \sin^{-1}



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Example 4: Find x. SOH CAH TOA



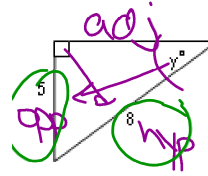
$$\cos x = \frac{3}{5.8}$$

$$\cos^{-1}\left(\frac{3}{5.8}\right) = 58.85^\circ$$

$$59^\circ$$

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Example 5: Find y. SOH CAH TOA



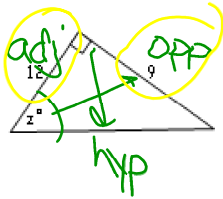
$$\sin y = \frac{5}{8}$$

$$\sin^{-1}\left(\frac{5}{8}\right) = 38.6^\circ$$

$$39^\circ$$

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Example 6: Find z. SOH CAH TOA



$$\tan z = \frac{9}{12}$$

$$\tan^{-1}\left(\frac{9}{12}\right) = 36.8^\circ$$

$$37^\circ$$

Jan 2-3:44 PM