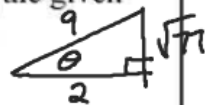


Assume that θ is an acute angle in a right triangle satisfying the given conditions. Evaluate the remaining trigonometric functions.



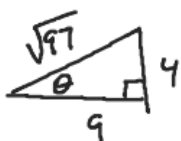
A) $\sin \theta = \frac{4}{9}$

B) $\cos \theta = \frac{2}{9}$

$\sin \theta = \frac{\sqrt{77}}{9}$ $\csc \theta = \frac{9}{\sqrt{77}}$

$\cos \theta = \frac{2}{9}$ $\sec \theta = \frac{9}{2}$

$\tan \theta = \frac{\sqrt{77}}{2}$ $\cot \theta = \frac{2}{\sqrt{77}}$



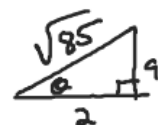
C) $\tan \theta = \frac{4}{9}$

$\sin \theta = \frac{4}{\sqrt{97}}$ $\csc \theta = \frac{\sqrt{97}}{4}$

$\cos \theta = \frac{9}{\sqrt{97}}$ $\sec \theta = \frac{\sqrt{97}}{9}$

$\tan \theta = \frac{4}{9}$ $\cot \theta = \frac{9}{4}$

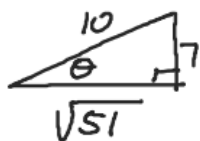
D) $\cot \theta = \frac{2}{9}$



$\sin \theta = \frac{2}{\sqrt{85}}$ $\csc \theta = \frac{\sqrt{85}}{2}$

$\cos \theta = \frac{9}{\sqrt{85}}$ $\sec \theta = \frac{\sqrt{85}}{9}$

$\tan \theta = \frac{2}{9}$ $\cot \theta = \frac{9}{2}$



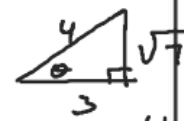
E) $\csc \theta = \frac{10}{7}$

$\sin \theta = \frac{7}{10}$ $\csc \theta = \frac{10}{7}$

$\cos \theta = \frac{\sqrt{51}}{10}$ $\sec \theta = \frac{10}{\sqrt{51}}$

$\tan \theta = \frac{7}{\sqrt{51}}$ $\cot \theta = \frac{\sqrt{51}}{7}$

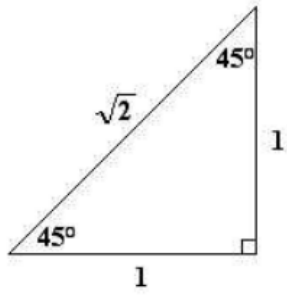
F) $\sec \theta = \frac{4}{3}$



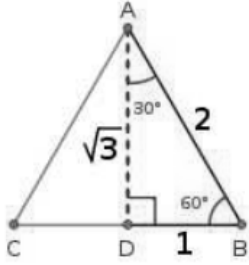
$\sin \theta = \frac{\sqrt{7}}{4}$ $\csc \theta = \frac{4}{\sqrt{7}}$

$\cos \theta = \frac{3}{4}$ $\sec \theta = \frac{4}{3}$

$\tan \theta = \frac{\sqrt{7}}{3}$ $\cot \theta = \frac{3}{\sqrt{7}}$



45-45-90 Triangle

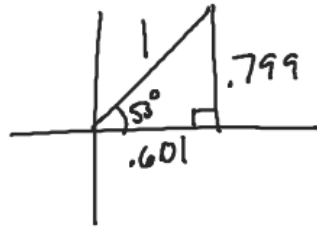


30-60-90 Triangle

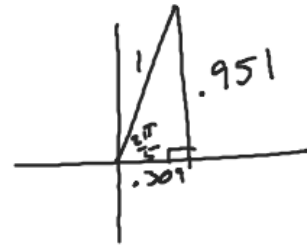
$$\frac{.799}{1} \quad \frac{799}{1000}$$

Evaluate using a calculator. Make sure your calculator is in the correct mode. Give answers to 3 decimal places and then draw the triangle that represents the situation.

A) $\sin 53^\circ \approx .799$

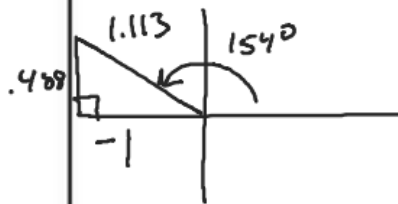


B) $\cos \frac{2\pi}{5} = .309$

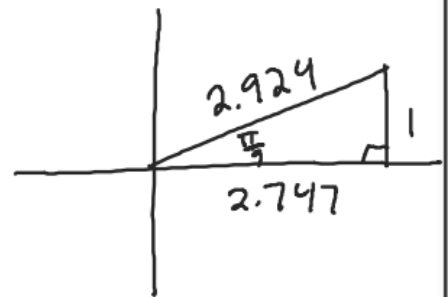


$$-\frac{.488}{1}$$

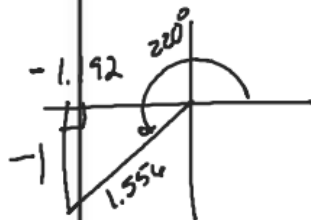
C) $\tan 154^\circ = -.488$



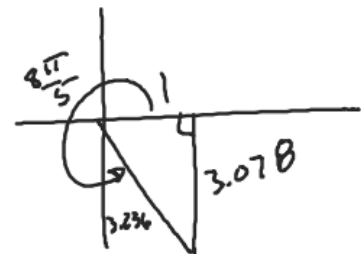
D) $\cot \frac{\pi}{9} = 2.747$



E) $\csc 220^\circ = -1.556$

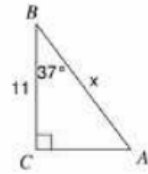


F) $\sec \frac{8\pi}{5} = 3.236$

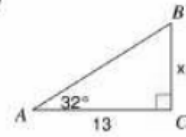


Solve the triangle for the variable shown.

9)



10)



Solve the triangle ABC for all of its unknown parts. Assume C is the right angle.

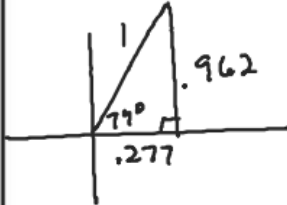
$$\alpha = 40^\circ \quad a = 10$$

Solve the triangle ABC for all of its unknown parts. Assume C is the right angle.

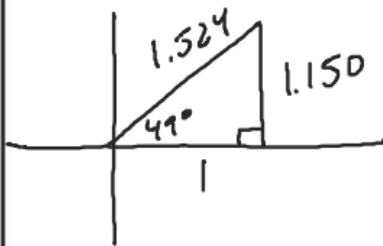
$$\beta = 62^\circ \quad a = 7$$

Example 6: From a point 340 feet away from the base of the Peachtree Center Plaza in Atlanta, Georgia, the angle of elevation to the top of the building is 65° . Find the height of the building.

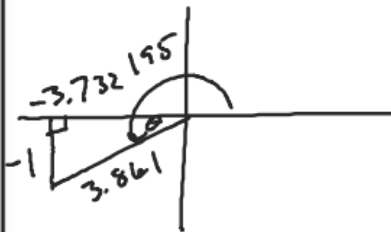
$$\sin 74^\circ = .962$$



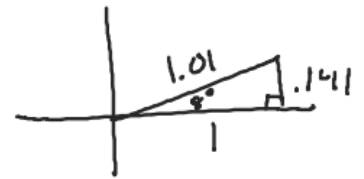
$$\sec 49^\circ = 1.524$$



$$\cot 195^\circ = 3.732$$



$$\tan 8^\circ = .141$$



$$\cos 322^\circ = .788$$

