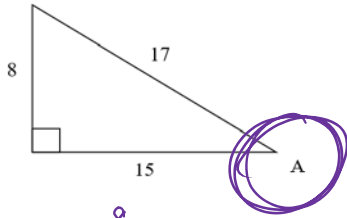


sine cosine tangent

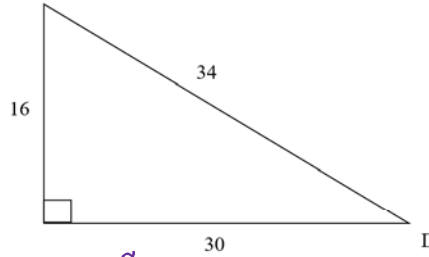
Geometry
Trig Notes Day 1

$\frac{S}{H}$ $\frac{C}{H}$ $\frac{T}{A}$

Name _____

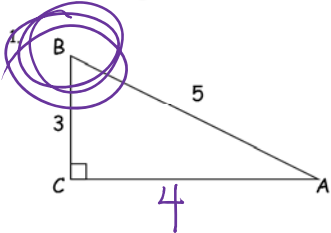


$\sin A = \frac{8}{17}$
 $\cos A = \frac{15}{17}$
 $\tan A = \frac{8}{15}$

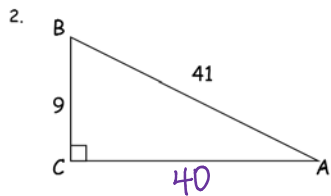


$\sin D = \frac{16}{34}$
 $\cos D = \frac{30}{34}$
 $\tan D = \frac{16}{17}$

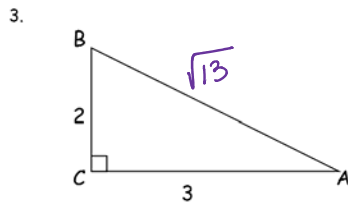
Write the 3 trigonometric ratios for each angle in the following problems.



$\sin A = \frac{3}{5}$ $\sin B = \frac{4}{5}$
 $\cos A = \frac{4}{5}$ $\cos B = \frac{3}{5}$
 $\tan A = \frac{3}{4}$ $\tan B = \frac{4}{3}$



$\sin A = \frac{9}{41}$ $\sin B = \frac{40}{41}$
 $\cos A = \frac{40}{41}$ $\cos B = \frac{9}{41}$
 $\tan A = \frac{9}{40}$ $\tan B = \frac{40}{9}$



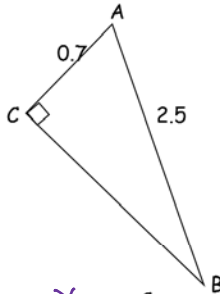
$\sin A = \frac{2}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$ $\sin B = \frac{3\sqrt{13}}{13}$
 $\cos A = \frac{3}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{3\sqrt{13}}{13}$ $\cos B = \frac{2\sqrt{13}}{13}$
 $\tan A = \frac{2}{3}$ $\tan B = \frac{3}{2}$

Rationalize

$\tan A = \frac{1}{\tan B}$ reciprocals
~~opposite~~

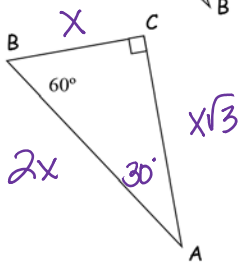
$\sin A = \cos B$
 $\cos A = \sin B$
 $A + B = 90$

4.



$$\begin{aligned} \sin A &= & \sin B &= \\ \cos A &= & \cos B &= \\ \tan A &= & \tan B &= \end{aligned}$$

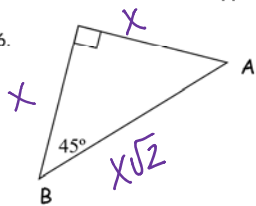
5.



$$\begin{aligned} \sin A &= \frac{X}{2X} = \frac{1}{2} & \sin B &= \frac{\sqrt{3}}{2} \\ \cos A &= \frac{X\sqrt{3}}{2X} = \frac{\sqrt{3}}{2} & \cos B &= \frac{1}{2} \\ \tan A &= \frac{X}{X\sqrt{3}} = \frac{1}{\sqrt{3}} & \tan B &= \sqrt{3} \end{aligned}$$

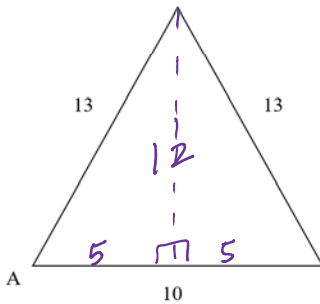
$$\frac{3 \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{3}} = \frac{3\sqrt{3}}{3} = \sqrt{3}$$

6.



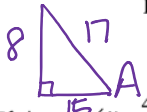
$$\begin{aligned} \sin A &= \frac{X}{X\sqrt{2}} = \frac{1}{\sqrt{2}} & \sin B &= \frac{\sqrt{2}}{2} \\ \cos A &= \frac{X}{X\sqrt{2}} = \frac{1}{\sqrt{2}} & \cos B &= \frac{\sqrt{2}}{2} \\ \tan A &= \frac{X}{X} = 1 & \tan B &= 1 \end{aligned}$$

7.



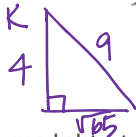
$$\begin{aligned} \sin A &= \frac{12}{13} \\ \cos A &= \frac{5}{13} \\ \tan A &= \frac{12}{5} \end{aligned}$$

8. If the $\tan \angle A = \frac{8}{15}$, find the $\cos \angle A$. (Hint: Draw a picture to help you!)



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

9. If the $\cos \angle K = \frac{4}{9}$, find the $\sin \angle K$. (Hint: Draw a picture to help you!)



$$\sin K = \frac{\sqrt{65}}{9}$$

Use your calculator to evaluate the following:

10. $\sin 20^\circ$

$$0.34$$

11. $\cos 58^\circ$

$$0.53$$

12. $\tan 72^\circ$

$$3.08$$

Solve each equation for x to the nearest hundredth.

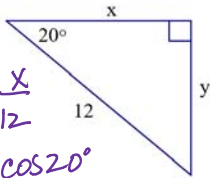
13. $\sin 25^\circ = \frac{x}{40}$

14. $\cos 73^\circ = \frac{35}{x}$

15. $\tan 20^\circ = \frac{54}{x}$

Find the missing sides!

16.



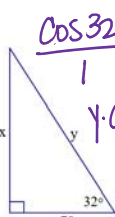
$$\cos 20^\circ = \frac{x}{12}$$

$$x = 12 \cdot \cos 20^\circ = 11.28$$

$$\sin 20^\circ = \frac{y}{12}$$

$$y = 12 \cdot \sin 20^\circ = 4.10$$

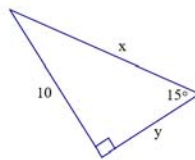
17.



$$\tan 32^\circ = \frac{x}{70}$$

$$x = 70 \tan 32^\circ = 43.74$$

18.



$$\cos 32^\circ = \frac{70}{y}$$

$$y \cdot \cos 32^\circ = 70$$

$$y = \frac{70}{\cos 32^\circ} = 82.54$$

19. The sun shines on a flagpole, causing a shadow to be cast on the ground. The distance from the base of the pole to the tip of the shadow is 49 feet. At that time of day, the sun's rays make an angle of 38 degrees with the ground. How tall is the flagpole?