

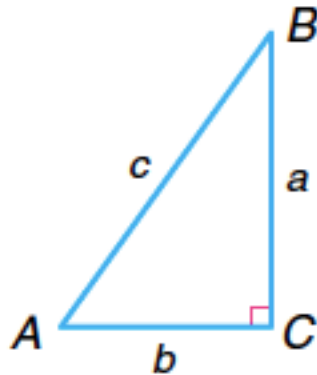
Applying Trig Functions

11.17.15

L#23

Section 5.4

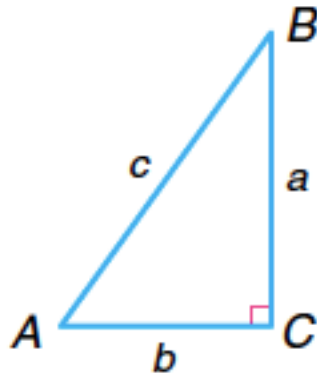
I Do:



Given $A=20^\circ$ and $b = 10$, Solve for a and c .

Identify givens	$A=20^\circ$ $b=10$ ->adjacent $c=$ ->hypotenuse $a=$ ->opposite		
Choose the trig functions that would work with the givens.	$\sin = \frac{opp}{hpy}$	$\tan = \frac{opp}{adj}$	$\cos = \frac{adj}{hyp}$
Solve for the missing parts.			

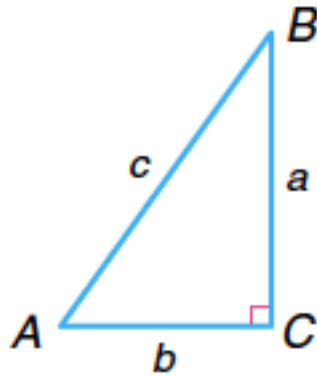
We Do:



Given $B=20^\circ$ and $b = 5$, Solve for a and c .

Identify givens			
Choose the trig functions that would work with the givens.	$\sin = \frac{opp}{hyp}$	$\tan = \frac{opp}{adj}$	$\cos = \frac{adj}{hyp}$
Solve for the missing parts.			

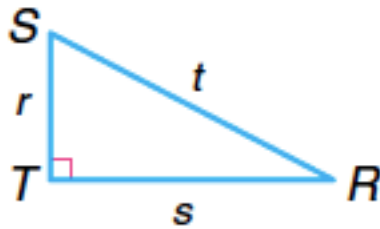
You Try with your partners:



Given $A=50^\circ$ and $b = 10$, Solve for a and c .

Identify givens	$A=20^\circ$ $b=10 \rightarrow$ adjacent $c= \rightarrow$ hypotenuse $a= \rightarrow$ opposite		
Choose the trig functions that would work with the givens.	$\sin = \frac{opp}{hyp}$	$\tan = \frac{opp}{adj}$	$\cos = \frac{adj}{hyp}$
Solve for the missing parts.			

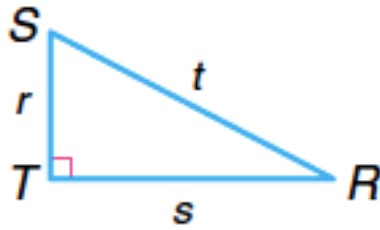
I do with your partner:



Given $R=30^\circ$ and $t = 10$, Solve for s and r .

Identify givens			
Choose the trig functions that would work with the givens.	$\sin = \frac{opp}{hyp}$	$\tan = \frac{opp}{adj}$	$\cos = \frac{adj}{hyp}$
Solve for the missing parts.			

You do solo:



Given $S=30^\circ$ and $r = 20$, Solve for s and r .

Identify givens			
Choose the trig functions that would work with the givens.	$\sin = \frac{opp}{hyp}$	$\tan = \frac{opp}{adj}$	$\cos = \frac{adj}{hyp}$
Solve for the missing parts.			

When given the value of an angle but not the angle, you need to use the inverse trig functions. Those inverse of each function has “arc” as a prefix.

$$\sin x = \frac{\sqrt{3}}{2} \text{ can be written as } x = \arcsin\left(\frac{\sqrt{3}}{2}\right) \text{ or } x = \sin^{-1}\frac{\sqrt{3}}{2}$$

Why is this useful?

I do:

$$\text{Solve for } x \text{ given, } \sin x = \frac{\sqrt{3}}{2}$$

Rewrite using arc sine when solving for the angle (θ).	$\sin^{-1}\frac{\sqrt{3}}{2} = x$
Use Unit Circle and solve!	$60^\circ \text{ and } 120^\circ = x$

We do:

$$\text{Solve for } x \text{ given, } \cos x = \frac{\sqrt{3}}{2}$$

Rewrite using arc cosine when solving for the angle (θ).	
Use Unit Circle and solve!	

You do with your partner:

Left Talk, Right Write

$$\text{Solve for } x \text{ given, } \tan x = \sqrt{3}$$

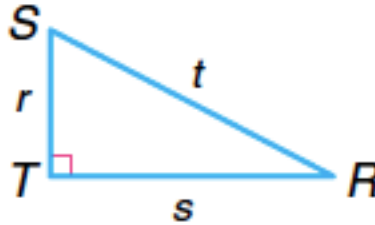
Rewrite using arc tan when solving for the angle (θ).	$\tan^{-1} \sqrt{3} = x$
Use Unit Circle and solve!	

You do SOLO:
Solve for x given, $\cos x = 0$

Rewrite using arc cos when solving for the angle (θ).	
Use Unit Circle and solve!	

Sometimes they only give you the sides and you have to find the angles.

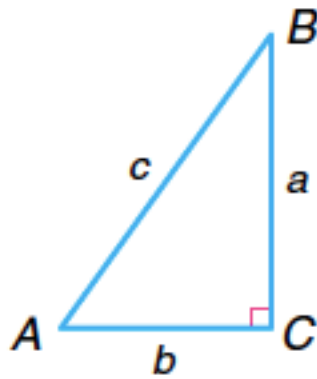
I do:



Solve for R and S given, $r=8$, $s=6$

Identify givens			
Choose the trig functions that would work with the givens.	$\sin R = \frac{opp}{hyp}$	$\tan R = \frac{opp}{adj}$	$\cos R = \frac{adj}{hyp}$
Solve for the missing parts.			

We Do:

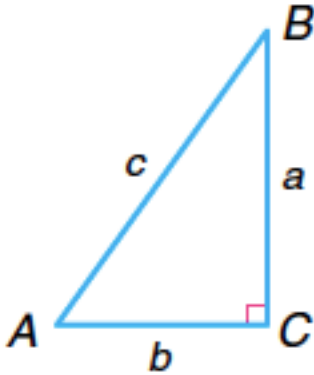


Solve for A and B given $b = 8$ and $c = 10$

Identify givens			
Choose the trig functions that would work with the givens.	$\sin A = \frac{opp}{hyp}$	$\tan A = \frac{opp}{adj}$	$\cos A = \frac{adj}{hyp}$
Solve for the			

missing parts.			
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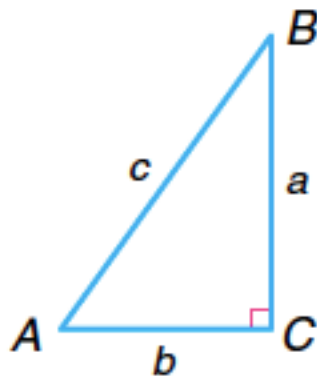
You do with your partner:



Solve for *A* and *B* given $b = 4$ and $a = 3$

Identify givens			
Choose the trig functions that would work with the givens.	$\sin A = \frac{opp}{hyp}$	$\tan A = \frac{opp}{adj}$	$\cos A = \frac{adj}{hyp}$
Solve for the missing parts.			

You Do SOLO:

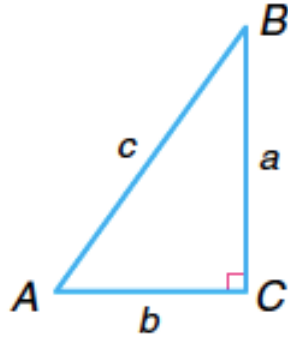


Solve for A and B given $b = 3$ and $c = 2$

Identify givens			
Choose the trig functions that would work with the givens.	$\sin A = \frac{\text{opp}}{\text{hyp}}$	$\tan A = \frac{\text{opp}}{\text{adj}}$	$\cos A = \frac{\text{adj}}{\text{hyp}}$
Solve for the missing parts.			

Exit Slip

1) Solve for x , given $\tan x = (-1)$



2) Solve for A given $a=5$ and $b=6$

3) Solve for b given, $A=30^\circ$ and $c = 8$