

Stick Quiz

1. The terminal side of θ in standard position contains the point at $(-6, 2)$. Find the exact values of the six trigonometric functions of θ .

2. The terminal side of θ in standard position contains the point at $(-2, 0)$. Find the exact values of the six trigonometric functions of θ .

3. Sketch each angle then find its reference angle:

a) -150°

b) $\frac{2\pi}{3}$

$$1. \sin \theta = \frac{2}{6.32}$$

$$\cos \theta = \frac{-6}{6.32}$$

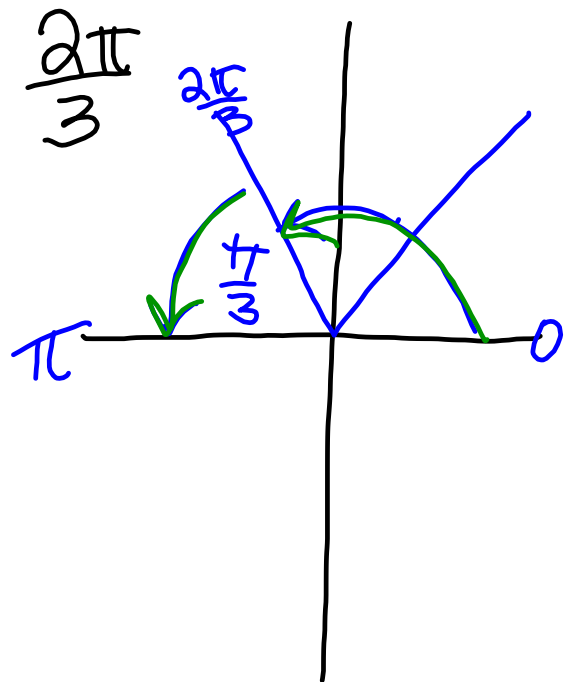
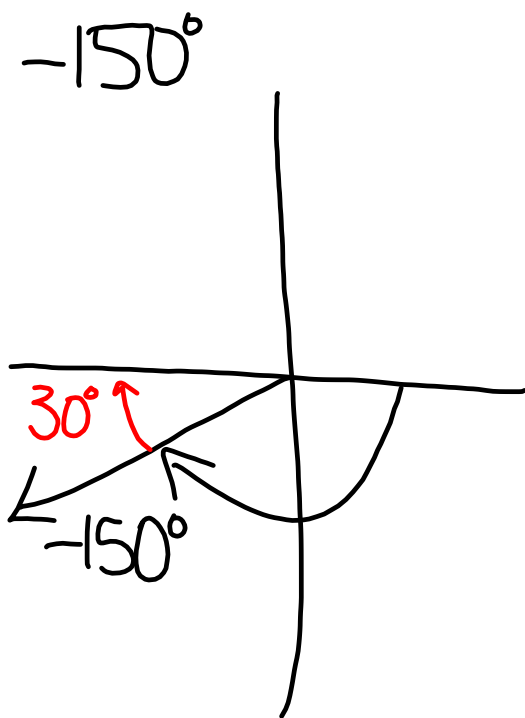
$$\tan \theta = \frac{2}{-6}$$

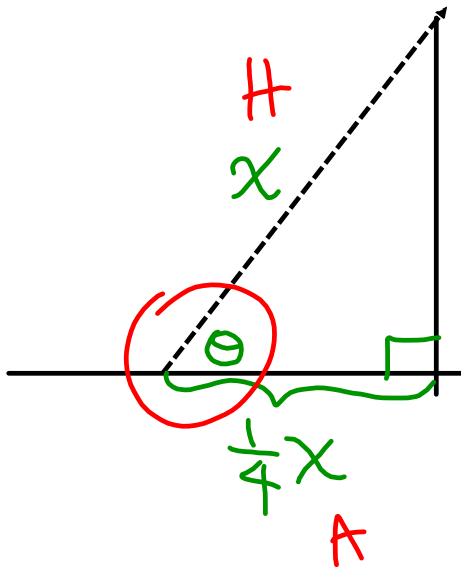
$$\csc \theta = \frac{6.32}{2}$$

$$\sec = \frac{6.32}{-6}$$

$$\cot \theta = \frac{-6}{2}$$

2. 0 und
 1 1
 0 und





CAH

$$\cos \theta = \frac{\frac{1}{4}x}{x}$$

$$\cos \theta = \frac{1}{4}$$

$$\cos^{-1}\left(\frac{1}{4}\right) = \theta$$

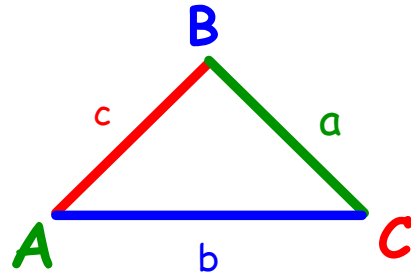
LESSON 12-4 Law of Sines

I can... solve for missing sides and angles in triangles using Law of Sines, and Law of Cosines.

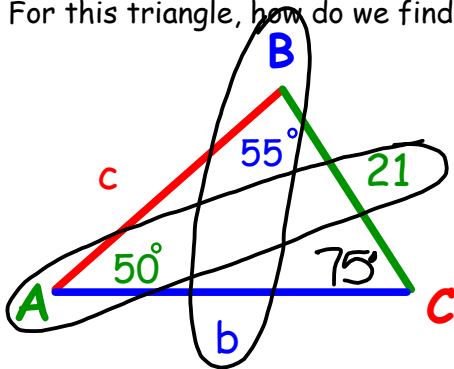
12.4 Law of Sines

What do we do if our triangle does not have a 90 degree angle in it?

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$



For this triangle, how do we find b ?



$$\frac{\sin(55)}{b} = \frac{\sin(50)}{21}$$

$$21 \sin(55) = b \sin(50)$$

$$\frac{21 \sin(55)}{\sin(50)} = \frac{b \sin(50)}{\sin(50)}$$

$$22.46 = b$$

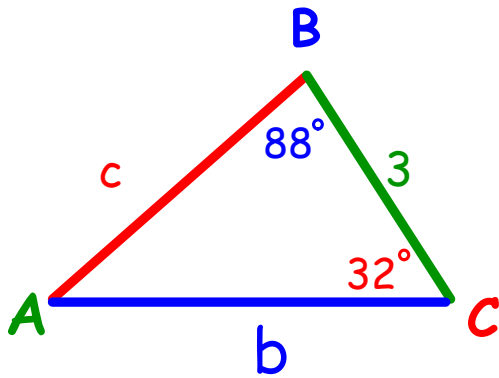
1. Select the proportion for the given angles and sides.

$\frac{\sin A}{a}$	$\frac{\sin B}{b}$	$\frac{\sin C}{c}$
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2. Substitute the known angles and sides.

3. Solve for what you are trying to find b .

How do we find our missing measurements?



$$\frac{\sin(\quad)}{\quad} = \frac{\sin(\quad)}{\quad}$$

$$\frac{\sin(\quad)}{\quad} = \frac{\sin(\quad)}{\quad}$$

It's Tricky Time!!!

What if we needed to find an angle instead of a side length?

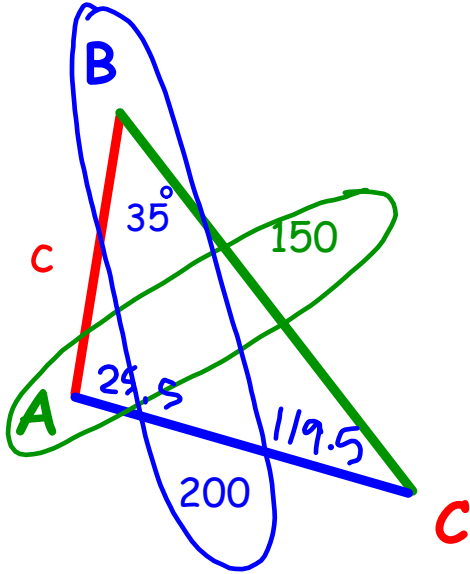


Think...

Think...

Think...

What is the measure of angle A ?



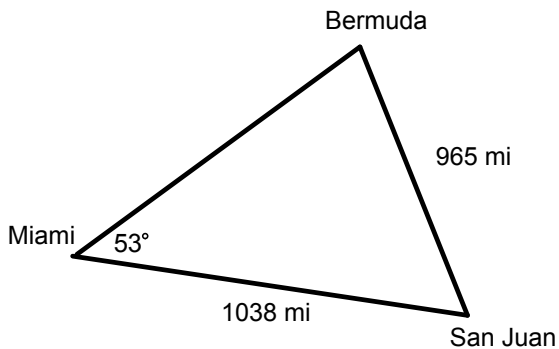
$$\cancel{150} \cdot \frac{\sin(A)}{\cancel{150}} = \frac{\sin(35)}{200} \cdot 150$$

$$\sin A = \frac{150 \cdot \sin(35)}{200}$$

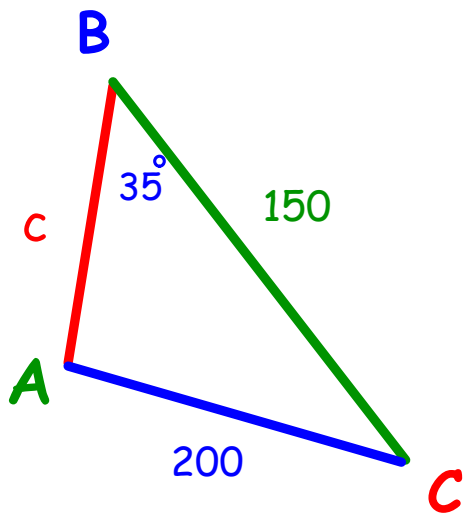
$$\sin^{-1}\left(\frac{150 \sin(35)}{200}\right) = A$$

$$A = 25.5^\circ$$

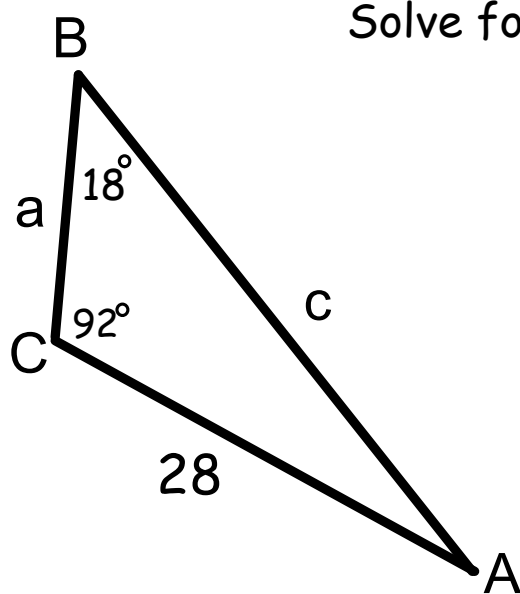
Find the distance from Miami to Bermuda.



What is the measure of angle A ?



$$\frac{\sin(\quad)}{\quad} = \frac{\sin(\quad)}{\quad}$$



Solve for everything!!!

$$\frac{\sin(\quad)}{\quad} = \frac{\sin(\quad)}{\quad}$$

$$\frac{\sin(\quad)}{\quad} = \frac{\sin(\quad)}{\quad}$$

Homework

12.4 Pg. 819 #5-7,21-28,37,39,42

Next Class Law of Cosines

12.5 Pg. 826 #9-20