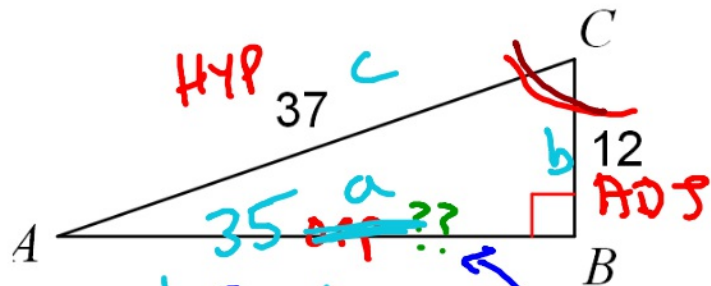


Good morning: warm up



1. Find $\sin C$

$\frac{\text{opp}}{\text{hyp}}$

$$\frac{35}{37}$$

2. Write 2 trig ratios that are equal to $\frac{12}{37}$

$$\sin A$$

$$\cos C$$

SOH/CAH/TOA

Need this

$$12^2 + 37^2 = c^2$$

$$1513 = c^2$$

$$38.9 = c$$

$$a^2 + 12^2 = 37^2$$

$$a = 35$$

Reminders:

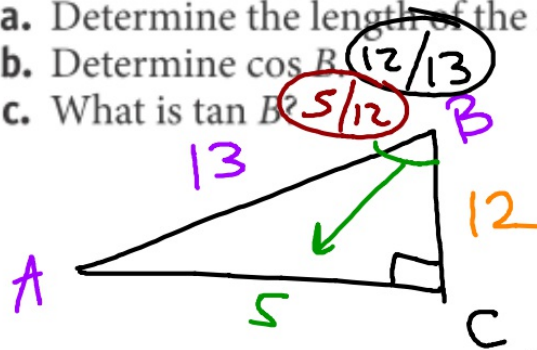
First Q3 assessment is Monday

Tech Club/eLab today 4-530p

Visibly Random Grouping

Given $\sin B = \frac{5}{13}$, draw a right triangle ABC with right angle C and label the side lengths.

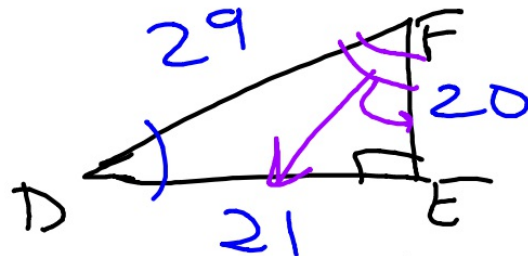
- Determine the length of the missing side.
- Determine $\cos B$.
- What is $\tan B$?



$$\sin B = \frac{5}{13} \left\{ \begin{array}{l} \leftarrow \text{opp} \\ \leftarrow \text{hyp} \end{array} \right.$$

SOHCAHTOA

Given $\triangle DEF$ with right angle E and $\cos D = \frac{21}{29}$, Find $\sin D$, $\tan F$, and $\cos F$.



$$21^2 + x^2 = 29^2$$

$$\downarrow$$

$$\underline{x = 20}$$

$$\sin D = \frac{20}{29} = \cos F =$$

$$\tan F = \frac{21}{20}$$

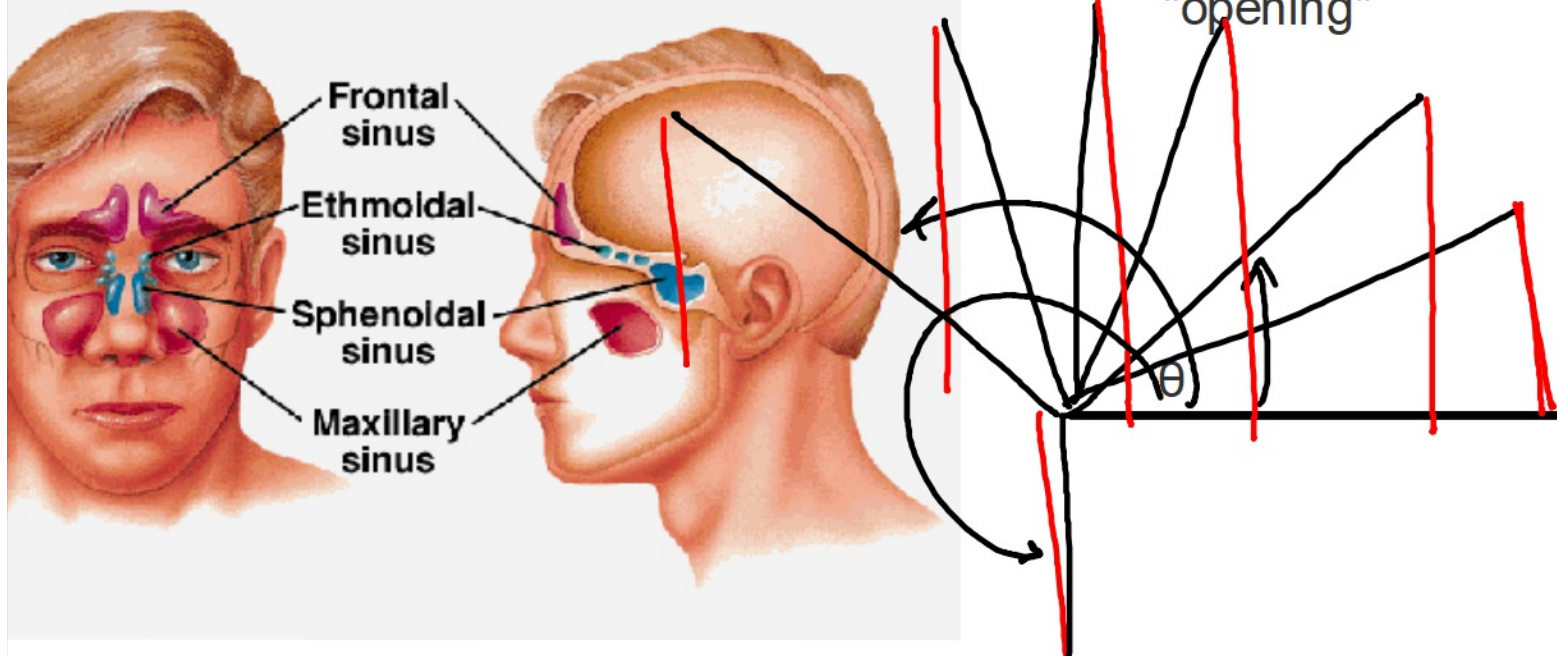
adj hyp

A comment:

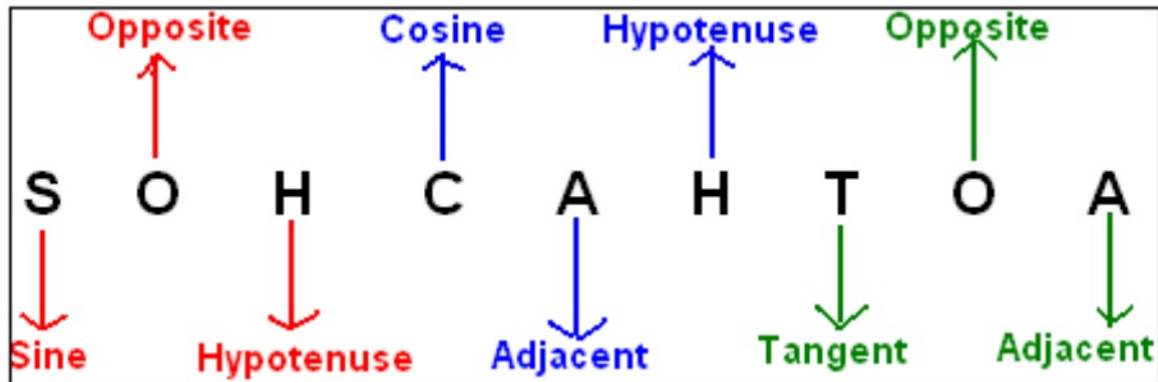
why is it called "sine"

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Sinuses



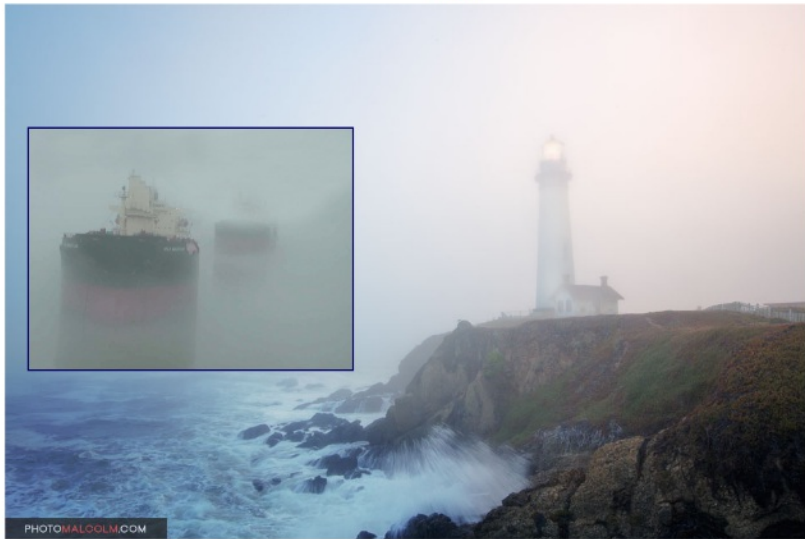
So you think you understand SohCahToa...



But so far all we have done is play around with numbers inside of triangles and make different combinations.

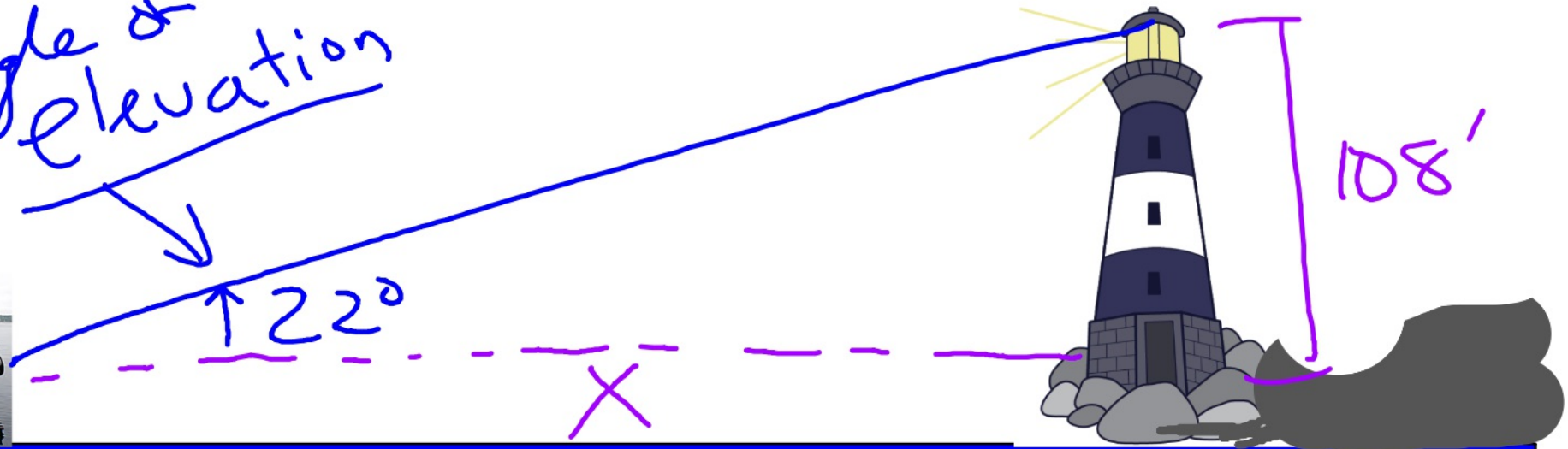
A ship is in heavy fog and the captain is unsure how far away the rocky coast is.

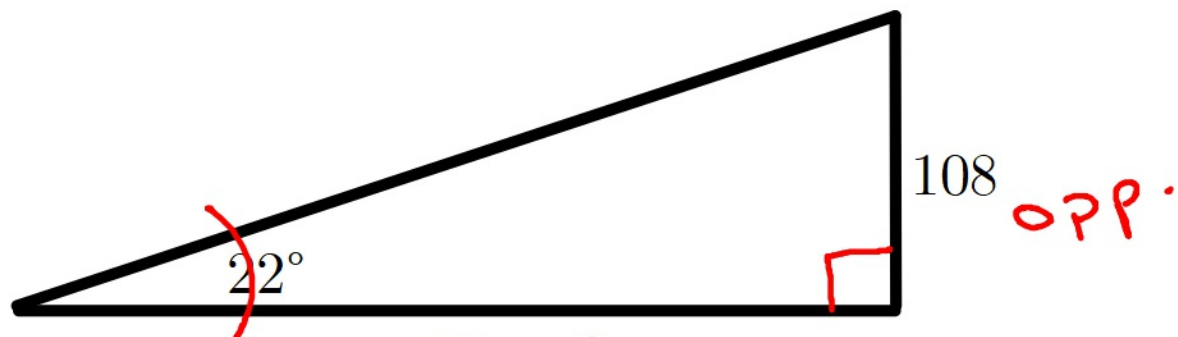
The captain spots a lighthouse he knows to be 108 feet tall. The angle of elevation up to the top of the lighthouse is 22° measured using a clinometer.





Angle of elevation





- Locate reference angle
- Identify opp/adj/hyp
- Determine best trig function
- Set up equation
- Solve

SOH CAH TOA

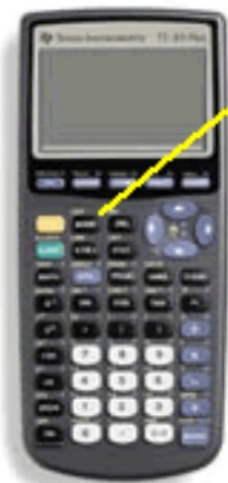
$$\tan 22^\circ = \frac{108}{x}$$

$$x(0.404) = \left(\frac{108}{x}\right) \times x$$

$$\cancel{0.404x} = \frac{108}{\cancel{x}}$$

$$\underline{\quad .404 \quad} \quad \underline{\quad .404 \quad}$$

$$x = 267'$$

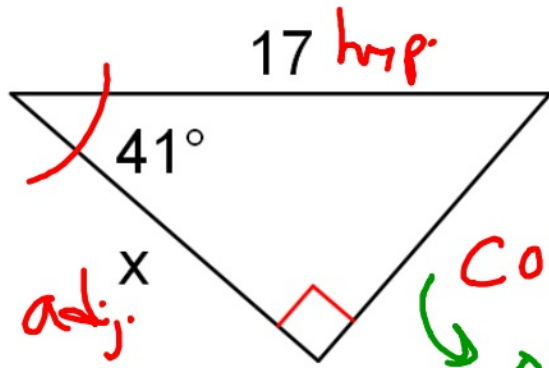


MODE

MODE window

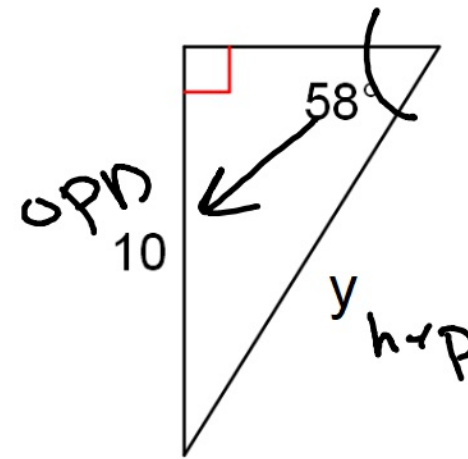
Normal	Sci	Eng
Float	0123456789	
Radian	Degree	
Func	Par	Pol
Connected	Dot	
Sequential	Simul	
Real	atbi	re^θi
Full	Horiz	G-T

Let's try more!



$$\cos 41 = \frac{x}{17}$$
$$0.754 = \frac{x}{17}$$

$$x = 12.8$$



SOH
CAH
TOA

$$\sin 58 = \frac{10}{y}$$

$$10 = (\sin 58) \cdot y$$

$$\frac{10}{\sin 58} = \frac{(\sin 58) \cdot y}{\sin 58}$$

$$11.8 = y$$

- Locate reference angle
- Identify opp/adj/hyp
- Determine best trig function
- Set up equation
- Solve

In class Practice

Try #13-18 on last night's homework handout

answers:

16) 14.6

15) 15.2

14) 16.4
18) 20.9

13) 26.8
17) 25.9

Done? Get hw new handout,
#1-4 (all) start it
#5-15 (odd)

HW #1-4 (all), #5-15 (odd)
test Monday