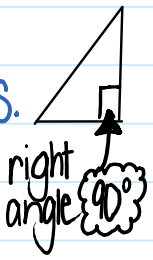
U6L1 Trigonometry

April-27-15 10:04 AM

April 27, 2015

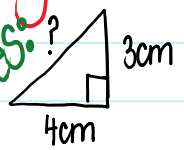
Q: What is trig? (from Greek trigonon = 3 angles and metro = measure)
A branch of math dealing with angles and sides of right triangles.



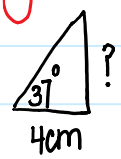
Q: What is it used for?
To find missing sides or angles in 

Q: Pythagoras VS. Trigonometry ... What's the diff?

Finding sides:



VS

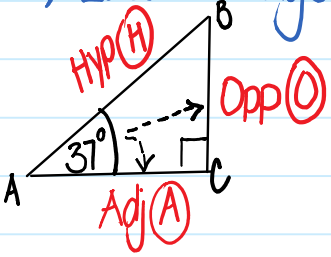


info given:
- 2 sides

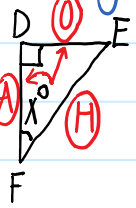
info given:
- one angle, one side

★ Steps for calculating side using trig: ★

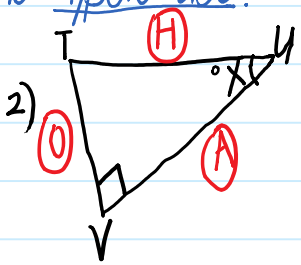
#1) Label triangle with opposite, adjacent, and hypotenuse.



Try: 1)



2)



#2) Identifying which ratio to use, and solve for missing side.

SOH	CAH	TOA
I Pp Yp	O djacent Yp	A Pp djacent
N	S	N
E	I	G
	N	E
	E	N
		T

$\sin \square = \frac{\text{opp}}{\text{hyp}}$

↑ put angle here

$\cos \square = \frac{A}{H}$

SINE Opp/Hyp

COSINE adj/Hyp

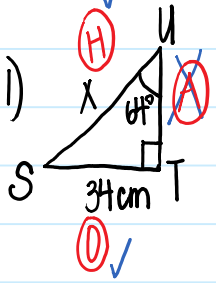
TANGENT Opp/adj

put angle here ↑

HYP

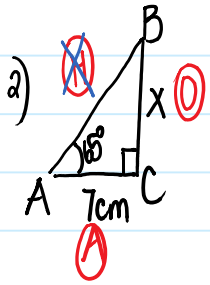
$\cos \square = \frac{A}{H}$

$\tan \square = \frac{O}{A}$

Try: 1) 

What trig ratio is needed to solve for x?

Ans: Use SOH (sine)

2) 

Ans: Use TOA (tangent)

#3) If you are given an angle, calculate the ratio. Use calculator.

eg. 1) $\sin 10° = 0.17$
2) $\tan 45° = 1.00$
3) $\cos 5° = 1.00$

What??? This gives you $\frac{O}{H}$ ratio in decimal form!!

multiply

eg. 4) $5 \tan 45° = 5(1) = 5$
5) $19 \sin 82° = 19(0.99\ldots) = 18.81509\ldots \approx 18.82$
6) $\frac{4}{\tan 16°} \approx 13.95$

Assignment:

U6L1 wkst (A) evens (B) evens (C) & (D) & (E) #1-5