6. In the triangle shown, $\overline{AB} \parallel \overleftrightarrow{DE}$. What is the length of $\overline{CD}$?

A. 1.2

C. 6.0

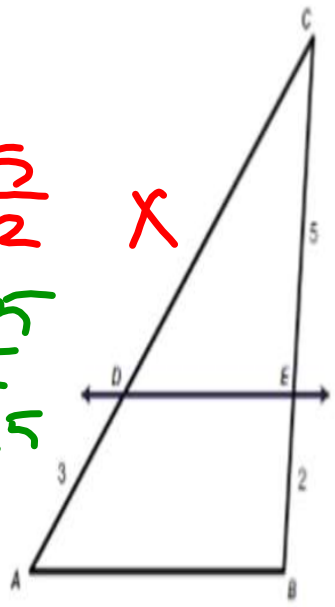
B. 3.3

D. 7.5

$\frac{x}{3} = \frac{5}{2}$ X

$\frac{2x}{2} = \frac{15}{2}$

$x = 7.5$



$\sin(\theta) = \frac{opp}{hyp}$

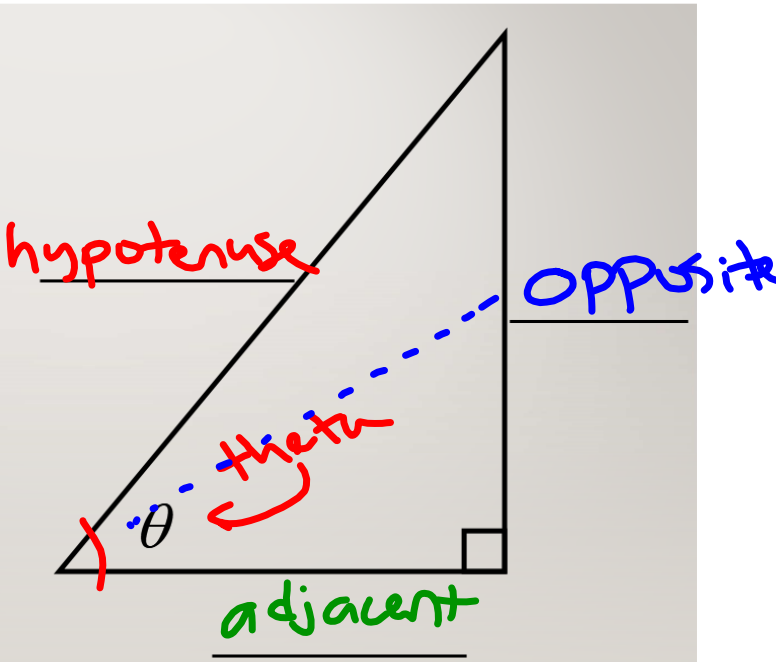
Sine

$\cos(\theta) = \frac{adj}{hyp}$

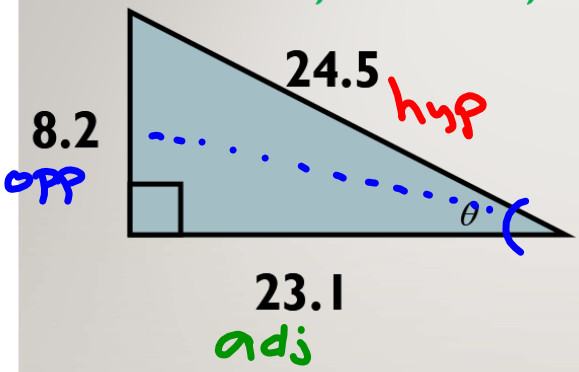
cosine

$\tan(\theta) = \frac{opp}{adj}$

tangent



Find the sine, the cosine, and the tangent of theta



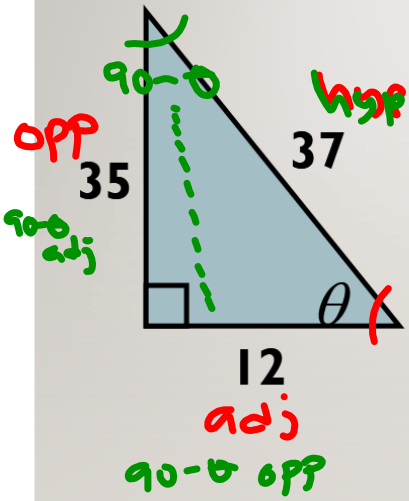
$\sin\theta = \frac{8.2}{24.5}$

$\cos\theta = \frac{23.1}{24.5}$

$\tan\theta = \frac{8.2}{23.1}$

Find the sine, the cosine, and the tangent of theta.

Give a fraction.



$\sin\theta = \frac{35}{37}$

$\cos\theta = \frac{12}{37}$

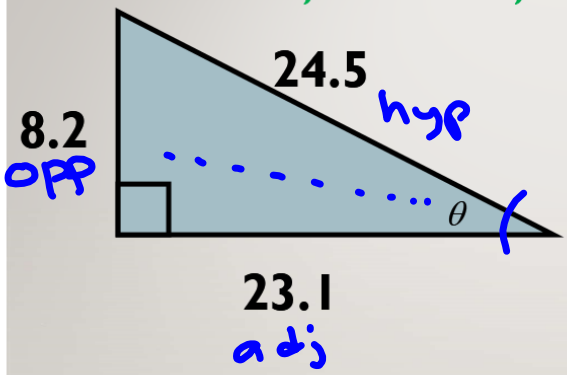
$\tan\theta = \frac{35}{12}$

Find the sine and cosine of $90-\theta$

$\cos(90-\theta) = \frac{35}{37}$

$\sin(90-\theta) = \frac{12}{37}$

Find the sine, the cosine, and the tangent of theta



$\sin\theta = \frac{8.2}{24.5}$

Find the sine and cosine of 90-θ

$\cos(90-\theta) = \frac{8.2}{24.5}$

$\tan\theta = \frac{8.2}{23.1}$

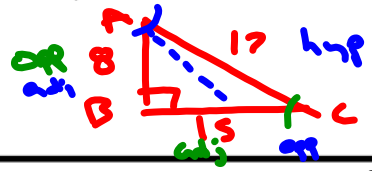
Geometry 2- Similarity & Right Triangle Trigonometry Homework

Name: _____ Date: _____

Trigonometry Ratios – Classwork

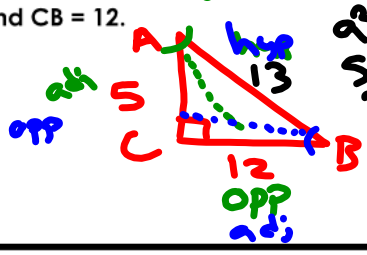
Draw ΔABC where ∠ABC = 90°, AB = 8, BC = 15, and AC = 17.

1. What is tan C? $\frac{8}{15}$
2. What is sin A? $= \frac{15}{17}$



Draw ΔABC where ∠ACB = 90°, AC = 5, and CB = 12.

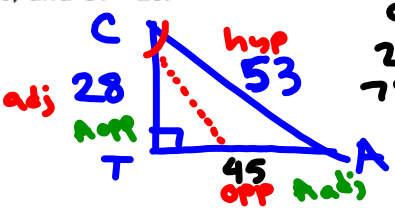
3. What is the length of AB? 13
4. What is cos A? $= \frac{5}{13}$
5. What is tan B? $= \frac{5}{12}$



$a^2+b^2=c^2$
$5^2+12^2=c^2$
$25+144$
$169=c^2$
$13=c$

Draw ΔCAT where ∠ATC = 90°, CA = 53, and CT = 28.

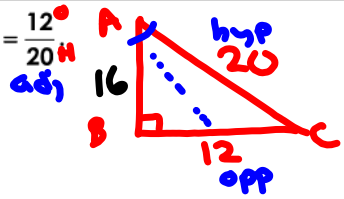
6. What is the length of AT? 45
7. What is sin C? $= \frac{45}{53}$
8. What is tan A? $= \frac{28}{45}$



$a^2+b^2=c^2$
$28^2+b^2=53^2$
$784+b^2=2809$
$b^2=2025$
$b=45$

Draw ΔABC where ∠B = 90° and $\sin A = \frac{12}{20}$

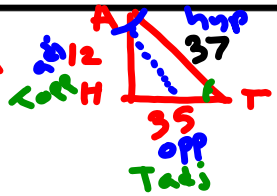
9. What is the length of AB? 16
10. What is tan A? $= \frac{12}{16} = \frac{3}{4}$
11. What is cos A? $= \frac{12}{20} = \frac{3}{5}$



$a^2+b^2=c^2$
$12^2+b^2=20^2$
$144+b^2=400$
$b^2=256$
$b=16$

Draw ΔHAT where ∠H = 90° and $\tan T = \frac{12}{35}$

12. What is the length of AT? 37
13. What is sin A? $= \frac{35}{37}$
14. What is cos T? $= \frac{35}{37}$



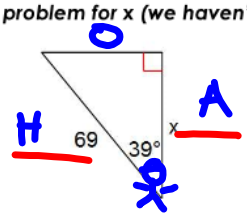
$a^2+b^2=c^2$
$12^2+35^2=c^2$
$144+1225=c^2$
$1369=c^2$
$37=c$

Geometry 2- Similarity & Right Triangle Trigonometry Homework

In the following problems, DRAW stick-man standing where the angle is and MARK each given side as A (*adjacent*), O (*opposite*), or H (*hypotenuse*). Then TELL which TRIG RATIO you have. ***You will NOT be solving the problem for x (we haven't learned how YET).***

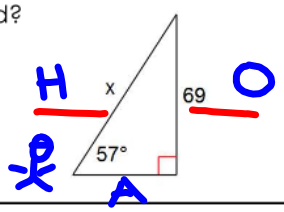
15. Which trig ratio is represented?

A. SIN
B. COS
C. TAN



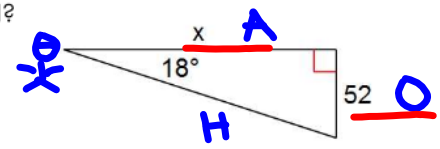
16. Which trig ratio is represented?

A. SIN
B. COS
C. TAN



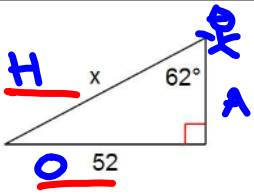
17. Which trig ratio is represented?

A. SIN
B. COS
C. TAN



18. Which trig ratio is represented?

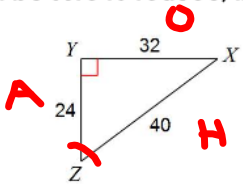
A. SIN
B. COS
C. TAN



Find each ratio and be sure to reduce, if possible.

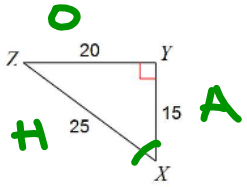
19. Tan Z

$\frac{O}{A} = \frac{32}{24} = \frac{4}{3}$



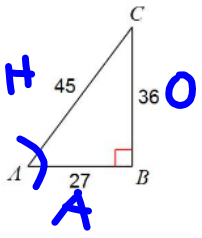
20. Sin X

$\frac{O}{H} = \frac{20}{25} = \frac{4}{5}$



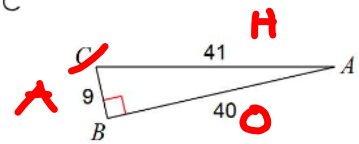
21. Cos A

$\frac{A}{H} = \frac{27}{45} = \frac{3}{5}$



22. Sin C

$\frac{O}{H} = \frac{40}{41}$

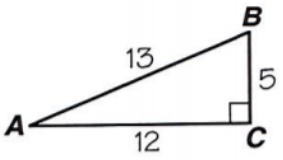


What Did One Mind Reader Say to th

Write the trigonometric ratio. Then write the letter of the cor
the exercise number. If the answer has a ●, shade in the b

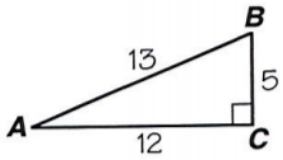
1 sin A
2 cos A
3 tan A

L $\frac{12}{13}$ E $\frac{5}{13}$
● $\frac{5}{12}$ V $\frac{13}{5}$



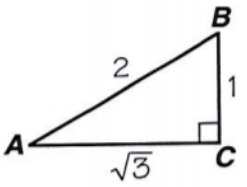
4 sin B
5 cos B
6 tan B

P $\frac{13}{5}$ Y $\frac{5}{13}$
W $\frac{12}{13}$ E $\frac{12}{5}$



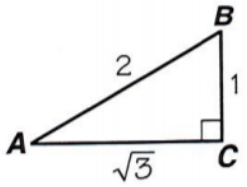
7 sin A
8 cos A
9 tan A

W $\frac{\sqrt{3}}{2}$ ● $\frac{1}{2}$
I $\frac{1}{\sqrt{3}}$ T 2



10 sin B
11 cos B
12 tan B

E $\sqrt{3}$ ● $\frac{1}{2}$
A $\frac{\sqrt{3}}{2}$ I $\frac{1}{\sqrt{3}}$



8	12	19	2	●	5	23	13	17	6	●	16
W	E	L	L	●	Y	O	U	R	E	●	F

ɹǝ Other Mind Reader?

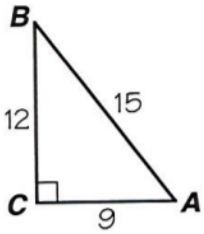
rrect choice in the box containing
ɔox instead of writing a letter in it.

13 sin A

14 cos A

15 tan A

I $\frac{3}{5}$ O $\frac{5}{3}$ ● $\frac{4}{3}$ U $\frac{4}{5}$

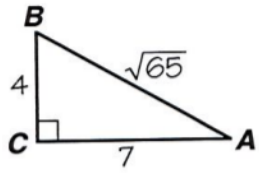


16 sin B

17 cos B

18 tan B

N $\frac{4}{7}$ R $\frac{4}{\sqrt{65}}$ M $\frac{7}{4}$ F $\frac{7}{\sqrt{65}}$

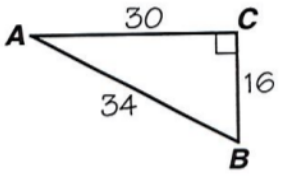


19 sin A

20 cos A

21 tan A

H $\frac{15}{17}$ L $\frac{8}{17}$ S $\frac{17}{8}$ ● $\frac{8}{15}$

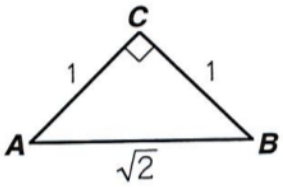


22 sin A

23 cos A

24 tan A

O $\frac{1}{\sqrt{2}}$ O $\frac{1}{\sqrt{2}}$ E $\sqrt{2}$ N 1



9	24	1		20	23	4		10	18		14
I	NE		H	OW		A	M		I		