Teacher DeLaMora **Subject** __Algebra 2__ **Dates**__4/20-24/20 (Week 1)_ **7-12 Weekly Planner** *Welcome to our Distance Learning Classroom!*

Student Time Expectation per day: 30 minutes

Content Area & Materials	**Learning Objectives**	**Tasks**	**Check-in Opportunities**	**Submission of Work for Grades**
Digital (If you can work digitally, please do. It will help to keep us all safe ☺) • Khan Academy (KA) • Summary Assignment Posted on Classroom Website and sent via Remind App.	Suggested Order / Pacing Right-Triangle Trigonometry • Pythagorean Theorem (Monday) • Special Right Triangles (Tuesday) • Trig Ratios (Wednesday) • Solving Triangles: Khan + Posted Video (Thursday) • Summary Assignment (Friday)	• Students are to complete the assigned **KhanAcademy assignments**. • After completing the KhanAcademy assignments, please complete the **summary assignment**	Mrs. De La Mora is available during the office hours at the times indicated below. • 12:00 – 2:00 pm Monday-Friday • Remind App CODE: 9b69ee • adelamora@tusd.net • Phone	• KA assignments will be recorded with the highest scores attained • Submit the summary assignment through a picture via Remind App. (Scored on Accuracy)
Hard Copy (Please only use this if you do not have technology available) • Notes + Examples • Assignments	Suggested Order / Pacing Right-Triangle Trigonometry • Pythagorean Theorem (Monday) • Special Right Triangles (Tuesday) • Trig Ratios (Wednesday) • Solving Triangles (Thursday) • Summary Assignment (Friday)	• Students are to **read** the lesson and examples provided • On a separate sheet of paper for each assignment, **complete** ALL problems showing your work.	Mrs. De La Mora is available during the office hours at the times indicated below. • 12:00 – 2:00 pm Monday-Friday • Remind App CODE: 9b69ee • adelamora@tusd.net • Phone	• Group your work together for your math class IN ORDER, and with the following labels clearly displayed: Student Name: Teacher Name: Class Name/Subject: Period: Assignment Week # • Assignments will be scored on accuracy.
Scheduled, *if possible,* • Discussion	Zoom classes can be held during tutoring hours. Schedule your meetings by visiting the class website: **kimballmath.wordpress.com** Discussions will revolve around discovery and application of concepts assigned for the week.			
Scaffolds & Supports	KA assignments can often be re-tried to improve learning. Videos are utilized to demonstrate not only key concepts, but also frequent points of errors, helping students avoid pitfalls.			

Teacher Office Hours *2 hours daily (all classes):* • Contact • Platform	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
	12:00 – 2:00 pm	**12:00 – 2:00 pm**	**12:00 – 2:00 pm**	**12:00 – 2:00 pm**	**12:00 – 2:00 pm**

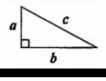
Student Name:
Teacher Name: De La Mora
Class Name/Subject:
Algebra 2
Period:
Assignment Week #: 1

NOTES: Complete all work on a separate sheet of paper. Include the heading provided on each worksheet you turn in. Show all work.

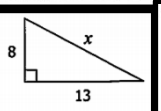
Monday

*Answer **exactly**, using a **simplified radical** if needed.*

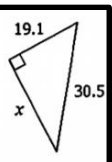
Do not convert to decimals unless the problem starts with a decimal. Round your answer to the nearest hundredth.

Main Ideas/Questions	Notes
Pythagorean Theorem 	• Used to find the missing side of a right triangle. • Sides *a* and *b* are called legs. • Side *c* is called the hypotenuse. • For any right triangle: $a^2+b^2=c^2$

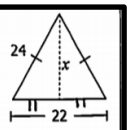
$8^2+13^2=x^2$
$64+169=x^2$
$233=x^2$
$15.3=x$



4.
$19.1^2+x^2=30.5^2$
$364.81+x^2=930.25$
$x^2=565.44$
$x=23.8$



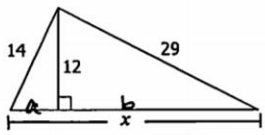
5.
$11^2+x^2=24^2$
$121+x^2=576$
$x^2=455$
$x=21.3$



7.
$12^2+a^2=14^2$
$144+a^2=196$
$a^2=52$
$a=7.2$

$12^2+b^2=29^2$
$144+b^2=841$
$b^2=697$
$b=26.4$

$x=7.2+26.4=33.6$

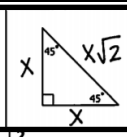


Multistep problem. Find the missing side using Pythagorean theorem. Use this information to solve for the needed piece of information.

Tuesday

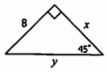
*Answer **exactly**, using a **simplified radical** if needed.*

45°-45°-90° Special Right Δ



- Leg = x
- Hypotenuse = $x\sqrt{2}$

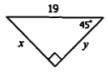
The legs of a 45°-45°-90° triangle are always congruent.

1. 

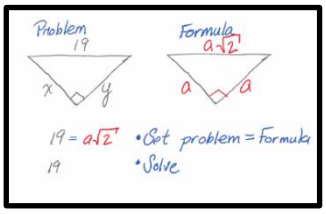
$x=8$
$y=8\sqrt{2}$

2.

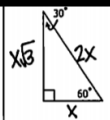
$x=25\sqrt{2}$
$y=25$

3. 

$\frac{19}{\sqrt{2}}=\frac{19\sqrt{2}}{2}$
$x=\frac{19\sqrt{2}}{2}$
$y=\frac{19\sqrt{2}}{2}$

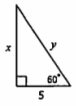


30°-60°-90° Special Right Δ



- Shorter Leg = x
- Longer Leg = $x\sqrt{3}$
- Hypotenuse = $2x$

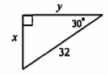
The shorter leg is always opposite the 30° angle and the longer leg is always opposite the 60° angle.

4. 

$x=5\sqrt{3}$
$y=10$

5.

$x=28$
$y=14\sqrt{3}$

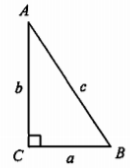
6. 

$x=16$
$y=16\sqrt{3}$

Wednesday

*Ratios must be exact answers. **Do not convert to decimals.***

TRIGONOMETRIC RATIOS



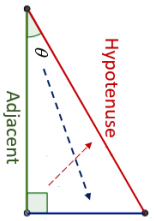
Each acute angle of a right triangle has the following trigonometric ratios:

SINE	The ratio of the leg **opposite** the angle to the **hypotenuse**.	• Sin A = $\frac{a}{c}$ • Sin B = $\frac{b}{c}$
COSINE	The ratio of the leg **adjacent** to the angle to the **hypotenuse**.	• Cos A = $\frac{b}{c}$ • Cos B = $\frac{a}{c}$
TANGENT	The ratio of the leg **opposite** the angle to the leg **adjacent** to the angle.	• Tan A = $\frac{a}{b}$ • Tan B = $\frac{b}{a}$

*** REMEMBER!! ***

SOH CAH TOA

Sin = $\frac{opp}{hyp}$ Cos = $\frac{adj}{hyp}$ Tan = $\frac{opp}{adj}$



SOHCAHTOA

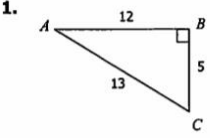
SOH $\sin\theta=\frac{\text{Opposite}}{\text{Hypotenuse}}$
CAH $\cos\theta=\frac{\text{Adjacent}}{\text{Hypotenuse}}$
TOA $\tan\theta=\frac{\text{Opposite}}{\text{Adjacent}}$

Always identify the angle of interest and the sides provided.

Student Name:
Teacher Name: De La Mora
Class Name/Subject:
Algebra 2
Period:
Assignment Week #: 1

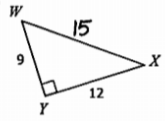
NOTES: Complete all work on a separate sheet of paper. Include the heading provided on each worksheet you turn in. Show all work.

1.



- Sin $A = \frac{5}{13}$
- Cos $A = \frac{12}{13}$
- Tan $A = \frac{5}{12}$
- Sin $C = \frac{12}{13}$
- Cos $C = \frac{5}{13}$
- Tan $C = \frac{12}{5}$

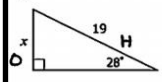
2.



$9^2+12^2=x^2$
$225=x^2$
$15=x$

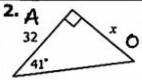
- Sin $W = \frac{12}{15} = \frac{4}{5}$
- Cos $W = \frac{9}{15} = \frac{3}{5}$
- Tan $W = \frac{12}{9} = \frac{4}{3}$
- Sin $X = \frac{9}{15} = \frac{3}{5}$
- Cos $X = \frac{12}{15} = \frac{4}{5}$
- Tan $X = \frac{9}{12} = \frac{3}{4}$

1.



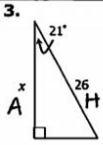
$\sin 28 = \frac{x}{19}$
$x = 19 \cdot \sin 28$
$x = 8.9$

2.



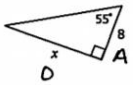
$\tan 41 = \frac{x}{32}$
$32 \cdot \tan 41 = x$
$27.8 = x$

3.



$\cos 21 = \frac{x}{26}$
$26 \cdot \cos 21 = x$
$24.3 = x$

4.



$\tan 55 = \frac{x}{8}$
$8 \cdot \tan 55 = x$
$11.4 = x$

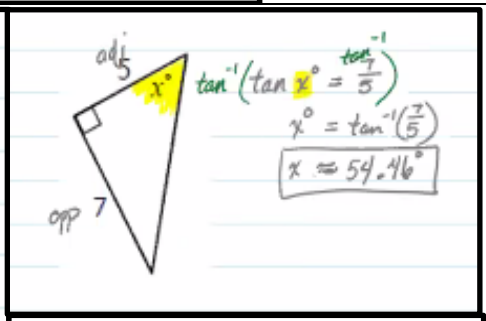
Label the angle of interest and Adjacent, Opposite and Hypotenuse Side.

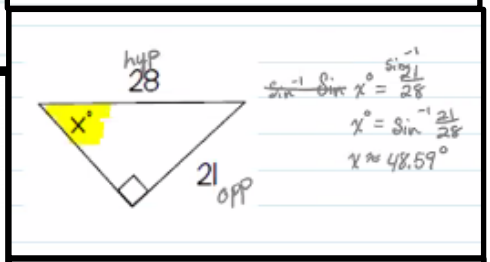
Thursday

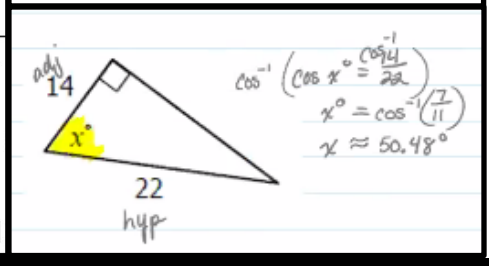
Round your answer to the nearest hundredth.

Steps for Solving

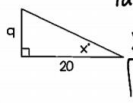
1. Identify ∠ of interest
2. Identify relationships of sides
3. Set up equation
4. Solve by inverse function







EXAMPLE 1

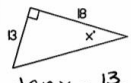


$\tan x = \frac{9}{20}$
$x = \tan^{-1}(9/20)$
$x = 24.2°$

EXAMPLE 2

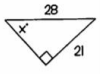
$\cos x = \frac{17}{32}$
$x = \cos^{-1}(17/32)$
$x = 57.9°$

Finding missing ANGLES with TRIGONOMETRY



$\tan x = \frac{13}{18}$
$x = \tan^{-1}(13/18)$
$x = 35.8°$

EXAMPLE 3



$\sin x = \frac{21}{28}$
$x = \sin^{-1}(21/28)$
$x = 48.6°$

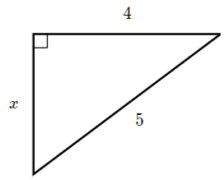
EXAMPLE 4

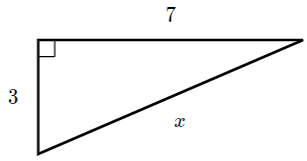
Student Name:
Teacher Name: De La Mora
Class Name/Subject: Algebra 2
Period:
Assignment Week #: 1

Complete all work on a separate sheet of paper. Show all work. Include the heading provided on each worksheet you turn in.

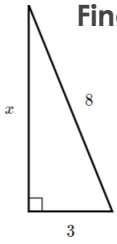
Monday

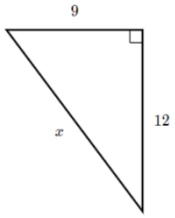
Find the value of x for each triangle.



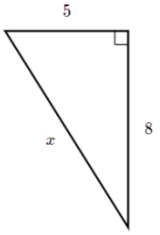


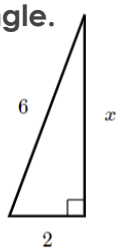
Find the value of x for each triangle.



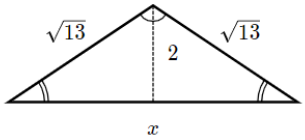


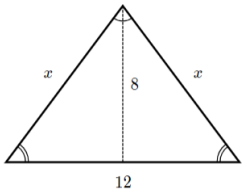
Find the value of x for each triangle.



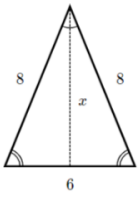


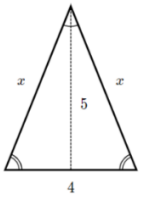
Find the value of x for each isosceles triangle.



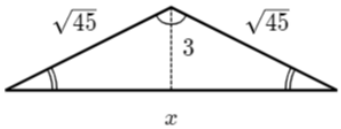


Find the value of x for each isosceles triangle.



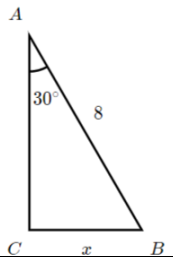


Find the value of x in the isosceles triangle.



Tuesday

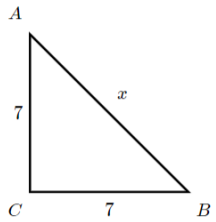
In the right triangle shown, $\angle A = 30°$ *and* $AB = 8$.
How long is BC?
exactly, using a radical if needed.



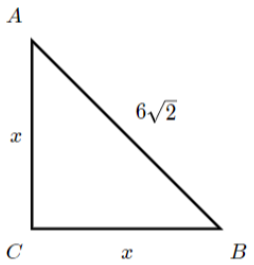
$\angle A =$

Answer

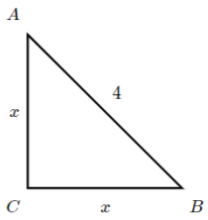
In the right triangle shown, $AC = CB = 7$.
How long is AB?
Answer exactly, using a radical if needed.



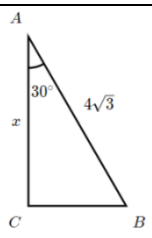
In the right triangle shown, $AC = BC$ *and* $AB = 6\sqrt{2}$
How long are each of the legs?
Answer exactly, using a radical if needed.



In the right triangle shown, $AC = BC$ *and* $AB = 4$.
How long are each of the legs?
Answer exactly, using a radical if needed.



In the right triangle shown, $\angle A = 30°$ *and* $AB = 4\sqrt{3}$.
How long is AC?
Answer exactly, using a radical if needed.

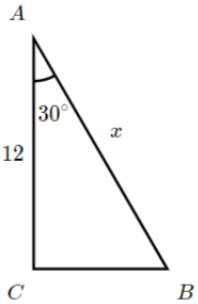


In the right triangle shown,

$\angle A = 30°$ *and* $AC = 12$.

How long is AB?

Answer exactly, using a radical if needed.

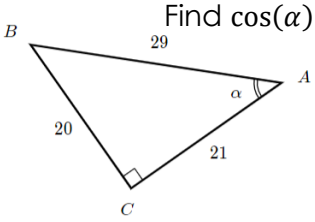


Student Name:
Teacher Name: De La Mora
Class Name/Subject: Algebra 2
Period:
Assignment Week #: 1

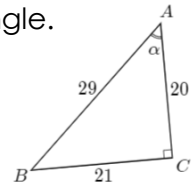
Complete all work on a separate sheet of paper. Show all work. Include the heading provided on each worksheet you turn in.

Wednesday

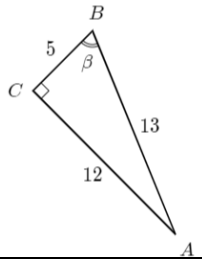
Find $\cos(\alpha)$ in the triangle.



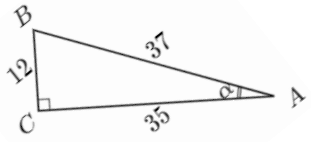
Find $\tan(\alpha)$ in the triangle.



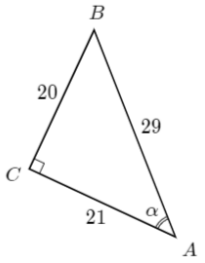
Find $\sin(\beta)$ in the triangle.

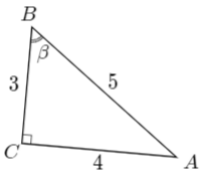


Find $\sin(\alpha)$ in the triangle.

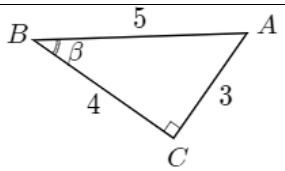


Find $\sin(\alpha)$ in the triangle.



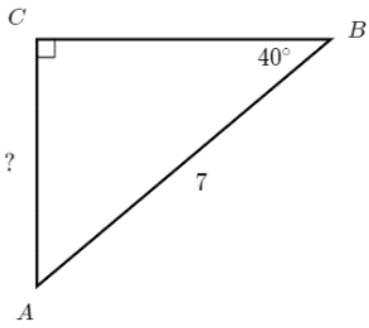


Find $\cos(\beta)$ in the triangle.



Find $\tan(\beta)$ in the triangle.

Thursday

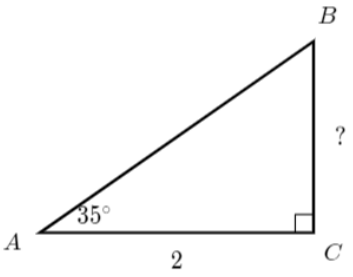


AC=

Round your answer to the nearest hundredth.

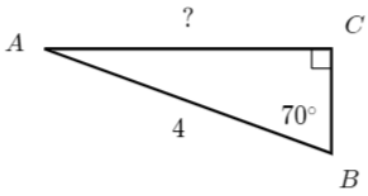
BC=

Round your answer to the nearest hundredth.



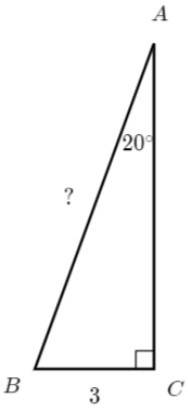
AC=

Round your answer to the nearest hundredth.



AB=

Round your answer to the nearest hundredth.



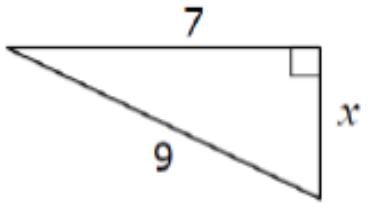
Summary Assignment Week#1

SHOW YOUR WORK on a separate sheet of paper.

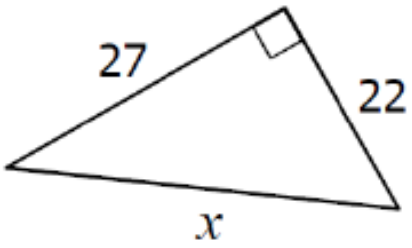
Student Name:	
Teacher Name:	
Subject:	Algebra 2
Period:	
Week:	#1

Use the Pythagorean Theorem and Trigonometric Ratios to identify the unknown values. Answers for lengths should be exact, using a radical if needed. Answers for angles should be rounded to the nearest hundredth.

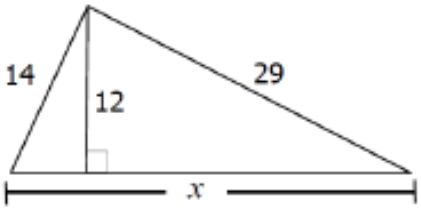
1.



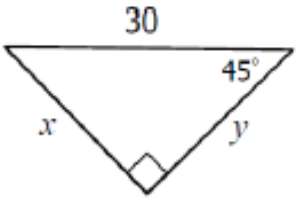
2.



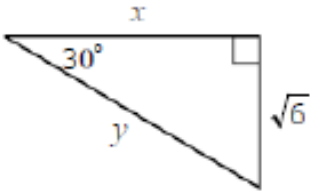
3.



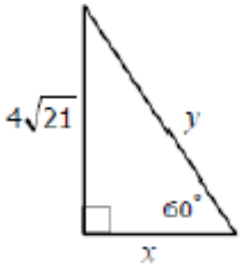
4.



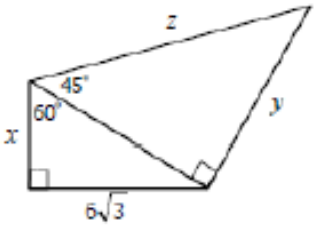
5.



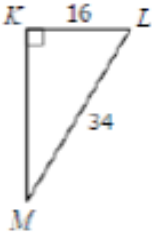
6.



7.

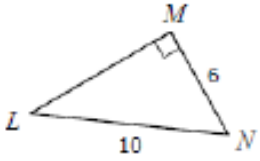


8. Find each trig ratio as a simplified fraction.



- Sin M = ___
- Cos M = ___
- Tan M = ___

9. Find each trig ratio as a simplified fraction.



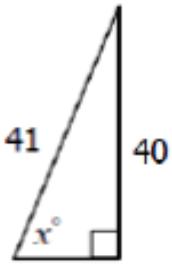
Sin L = _____

Tan N = _____

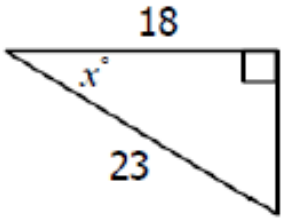
Cos L = _____

Sin N = _____

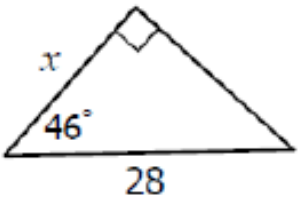
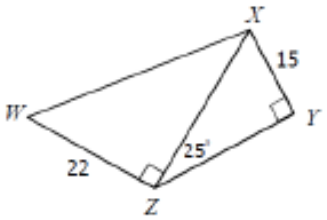
10. Solve for x. Round to the nearest hundredth.



11. Solve for x. Round to the nearest hundredth.



12. Find the value of x. Round to the nearest tenth.



13. Find m∠W.