Slide 1 (Sep 20-8:31 AM)

ASA

October 1, 2018, Monday

1) [triangles: 80° 30° / 10, 80° 30° / 10]

3) [triangle]

2) [triangle: 20, 10, 10 / 10] SSS [triangle: 10, 8 / 8]

$\frac{10}{8} = 1.25$

$\frac{10}{8} = 1.25$

$\frac{20}{16} = 1.25$ → 3 ways

→ 3 ways

Vocabulary Check!

1) Draw two triangles which are congruent (with leg lengths &/or angles)

2) Draw two triangles which are similar (with leg lengths &/or angles)

3) Draw a midsegment of a triangle (using tic marks where appropriate)

4) What two geometric tools can you use to make geometric constructions?

compass, straightedge, protractor.

Slide 2 (Unit 2 Study Guide Part 2)

Unit 2 Study Guide Part 2   Name _____ S ____

1) Determine the dilation scale factor.   2) Find the missing side, ?.

H (0,2) H'(0,3)

$\frac{H'_x}{H_x} = \frac{0}{0} = ?$

$\frac{H'_y}{H_y} = \frac{3}{2} = 1.5$

$\frac{15}{24} = \frac{25}{?}$

$15 ? = 600$

$\frac{15?}{15} = \frac{600}{15} = 40$

? = 40

Determine if each set of triangles are similar by AA~, SAS~ or SSS~. Otherwise, write Not Possible.

3) SSS $\frac{10}{12} = 0.83$ $\frac{12}{14.4} = 0.83$ $\frac{15}{18} = 0.83$ △ABC ~ △DEF

4) AA

5) SAS $\frac{8}{10} = 0.8$ $\frac{16}{20} = 0.8$

6) SAS $\frac{10}{12} = 0.83$ $\frac{15}{18} = 0.83$ △ABC ~ △DEF

7) △ABC ~ △DEF AA

8) SSS $\frac{8}{10} = 0.8$ $\frac{12}{15} = 0.8$ $\frac{12}{15} = 0.8$

180 / 92 = 49 / 39

13) If $\overline{DE} = 3x - 15$ and $\overline{AC} = 30$, find x.

$DE = \frac{1}{2} AC$ OR $2DE = AC$

$2(3x - 15) = 30$

$6x - 30 = 30$

$+30 \quad +30$

$\frac{6x}{6} = \frac{60}{6}$

$x = 10$

14) Given that M, P, & N are midpoints and the perimeter of △MPN = 61, what is the perimeter of △XYZ?

61 / -21 / -25

$\overline{PN} = 15$

30, 50, 15, 42

$50 + 30 + 42 = 80 + 42 = 122$

Slide 3 (constructions)

For all by-hand constructions use a compass and straightedge. DO NOT erase your construction marks.

15) Copy the angle.

16) Construct a regular hexagon inscribed in the circle.

TRY ANY 3!

17) Bisect the angle.

18) Construct a perpendicular bisector.

19) Construct a parallel line through the given point.

20) Construct a square inscribed in a circle.

Slide 4 (Constructions Review)

Constructions Review

Match each construction to its image. Highlight the first step of each construction. If complete, highlight the last step of the construction in another color. If incomplete, complete the construction.

21) A   Copying an angle
22) j   Hexagon inscribed in a circle
23) B   Copying a line segment
24) i   Bisecting an angle
25)   Square inscribed in a circle
26) d   Parallel line
27) F   Perpendicular bisector
28) e   Perpendicular line through a point on the line
29) g   Perpendicular line through a point NOT on the line
20) h   Equilateral triangle inscribed in a circle

A. B. C. D. E. F. G. H. I. J.

Slide 5 (Sep 20-8:32 AM)

October 2, 2018, Tuesday   SSS

$\frac{2}{4} = .5$

$\frac{2.7}{5} = .54$

$\frac{3}{6} = .5$

Are the triangles similar? How?

NO, NOT SIMILAR

What is being constructed?

What is the next step?

ANGLE BISECTOR

→ MOVE THE COMPASS TO SEGMENT QR

→ MAKE ANOTHER ARC

$2(3x - 5) = 26$

$6x - 10 = 26$

$+10 \quad +10$

$\frac{6x}{6} = \frac{36}{6}$

$x = 6$

What is x?
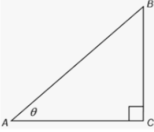
DE = 13

Test!

Slide 6 (Oct 2-7:55 AM)

Test

You may skip 1 problem per page, please write 'skip' on that problem otherwise I will grade it.

16. You may complete the construction described or a equilateral triangle inscribed in a circle. Please leave construction marks (= do not erase!).

Sep 20-8:31 AM   Sep 20-8:32 AM   Oct 2-7:55 AM

Slide 1

Using a laptop find out what SOHCAHTOA means. Write it in mathematical terms (letters & variables).
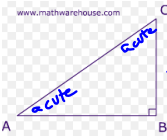
Label the following triangle using the words: hypotenuse, opposite & adjacent

Oct 2-12:15 PM

Slide 2

October 3, 2018, Wednesday

Unit 3 - Right Triangle Trigonometry

State a minimum of 5 characteristics of the following triangle.

1) a right triangle
2) there are sides (legs) and angles.
3) there are 3 vertices
4) there is 1 hypotenuse
5) there are 2 acute angles.

www.mathwarehouse.com

Sep 20-8:33 AM

Slide 3

Unit 3 - What is Right Triangle Trigonometry?

https://youtu.be/5UY8s9SpIOI by Garrick

While watching this video, list 5 important things you discover in your notebook.

$$\sin\theta = \frac{opp}{hyp} \quad \cos\theta = \frac{adj}{hyp} \quad \tan\theta = \frac{opp}{adj}$$

"theta" angle measure

$$\sin x = \frac{o}{h}$$

Sep 20-8:48 AM

Slide 4

p585

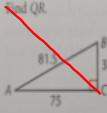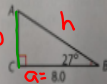Draw the Ratio in a Right Triangle, labeling all part of the right triangle

"TOP DRAWING"

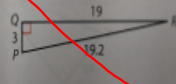p590 Use the tangent to find the unknown side length. #9-14

p 590 Use the tan-1 to find the unknown angle measure #15-17

Sep 20-10:57 AM

Slide 5

Use the tangent to find the unknown side length.
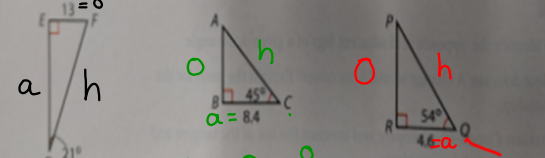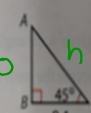
SOHCAHTOA

9. Find QR.   10. Find AC.   11. Find PQ

$$\tan\theta = \frac{oppo}{adj}$$
$$8(\tan 27°) = \left(\frac{o}{8}\right)8$$
$$4.1 = o$$

Oct 3-10:17 AM

Slide 6
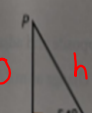
12. Find DE.   13. Find AB.   14. Find PR. = 6.3

$$\tan\theta = \frac{o}{a}$$
$$(\tan 21) = \frac{13}{a}$$
$$\frac{a \cdot \tan 21}{\tan 21} = \frac{13}{\tan 21}$$
$$a = 33.9$$

$$8.4(\tan 45°) = \left(\frac{o}{8.4}\right)8.4$$
$$8.4 = o$$

$$\tan\theta = \frac{o}{a}$$
$$4.6(\tan 54) = \left(\frac{o}{4.6}\right)4.6$$
$$6.3 = o$$

Oct 3-1:10 PM

Find the measure of the angle specified for each triangle. Use the inverse tangent (tan⁻¹) function of your calculator. Round your answer to the nearest degree.   tan⁻¹ OR arctan

15. Find ∠A.   16. Find ∠R.   17. Find ∠B.

$a = 3.0$ θ h $24 = a$ $\frac{1}{2} \cdot 2$ $O = 9$

$6.8 = O$

$\tan \theta = \frac{O}{a}$ $\tan \theta = \frac{O}{a}$

$\tan^{-1} \tan \theta = \frac{6.8}{3.0}$ $\tan^{-1} \tan \theta = \frac{9}{24}$

$\theta = \tan^{-1}\left(\frac{6.8}{3.0}\right)$ $\theta = \tan^{-1}\left(\frac{9}{24}\right)$

$\theta = 66°$ $\theta = 21°$

Oct 3-10:18 AM

Oct 4, 2018, Wednesday

How do SOHCAHTOA help you remember the tangent ratio.

Set up the tangent ratio to solve for x.   Set up the tangent ratio to solve for theta.

10   15   3.0 m   h

X   20°   30°   x   5.0 m

Oct 3-1:41 PM

What does the tangent ratio help you find?

https://youtu.be/BLHk7WkgdKw by Owens

Tangent Ratio explained, Owens

Sep 20-11:00 AM

Copy p594 Trig Ratios

How does this fit in our SOHCAHTOA?

Sep 20-11:15 AM

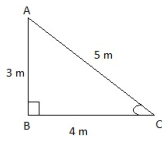Let's start with sine (SOH)...

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

hyp   opp   θ   adj

13cm   60   x cm

Sep 20-11:17 AM

& now for cosine (CAH)...

Cosine

Hypotenuse

Adjacent

adjacent
hypotenuse

CAH

17   18°   x

Sep 20-11:19 AM

Can you use multiple ratios (SOH), (CAH), and/or (TOA)?

Sep 20-11:23 AM

Let's explore some resources about trigonometry ratios on Geogebra...

https://ggbm.at/Z3wcyhcB brzenzi geobra trig ratio

https://www.geogebra.org/m/sxu5ZSuX#material/UZDfrWDq ayoob trig ratio veiving triangles

Write down 3 observations for each Geogebra file.

Sep 20-11:25 AM

Familiarizing with the Sine ratio - Kuta

Familiarizing with the Cosine ratio - Kuta

Can you choose the correct ratio? - Self assess

Word problems with a group.

Sep 20-11:56 AM