

SAS October 1, 2018, Monday

1) 2) 3) Vocabulary Check!

1) Draw two triangles which are congruent (with leg lengths &/or angles) *3 ways*
 2) Draw two triangles which are similar (with leg lengths &/or angles) *3 ways*
 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
 Protractor

Sep 20-8:31 AM

Unit 2 Study Guide Part 2

1) Determine the dilator scale factor.
 $H(0,2) \rightarrow H'(0,3)$
 $4/5 = 0.8$
 $2/4 = 0.5$
 $15/10 = 1.5$
 $15/10 = 1.5$

2) Find the missing side, *small*
 $4/5 = 25/?$
 $2/4 = 15/?$
 $15/? = 600/15$
 $? = 40$

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

3) $10/20 = 0.5$
 $12/24 = 0.5$
 $8/16 = 0.5$
 SSS

4) AA

5) $5/10 = 0.5$
 $8/16 = 0.5$
 $20/40 = 0.5$
 SAS

6) $10/15 = 2/3$
 $12/18 = 2/3$
 $8/12 = 2/3$
 SAS

7) AA

8) $8/12 = 2/3$
 $10/15 = 2/3$
 $8/8 = 1$
 Not Similar

9) $10/20 = 0.5$
 $12/24 = 0.5$
 $8/16 = 0.5$
 SSS

10) AA

11) $10/20 = 0.5$
 $12/24 = 0.5$
 $8/16 = 0.5$
 SSS

12) AA

13) If $DE = x - 15$ and $BC = 30$, find x .
 $2DE = AC$
 $2(x - 15) = 30$
 $2x - 30 = 30$
 $+30 +30$
 $2x = 60$
 $x = 30$

14) Given that M, P, & N are midpoints of the perimeter of $\triangle MPN = 61$ find the perimeter of $\triangle XYZ$?
 Perimeter of $\triangle MPN = 61$
 $30 + 15 + 16 = 61$
 Perimeter of $\triangle XYZ = 50 + 30 + 42 = 122$

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

15) Copy the angle. *IM*

 16) Construct a regular hexagon inscribed in the circle. *JF*

 17) Bisect the angle. *3!*

 18) Construct a perpendicular bisector. *JF*

 19) Construct a parallel line through the given point. *IM*

 20) Construct a square inscribed in a circle. *GB*

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) B Hexagon inscribed in a circle
 23) C Copying a line segment
 24) D Bisecting an angle
 25) E Square inscribed in a circle
 26) F Parallel line
 27) G Perpendicular bisector
 28) H Perpendicular line through a point on a line
 29) I Perpendicular line through a point not on the line
 30) J Equilateral triangle inscribed in a circle

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

October 2, 2018, Tuesday

SSS!
 $\frac{2}{4} = .5$
 $\frac{2.7}{5.4} = .5$
 $\frac{3}{6} = .5$
 No similar!
 Are the triangles similar? How?
 What is being constructed? angle bisector
 What is the next step? move compass to the point on QR
 $2(3x - 5) = 26$
 $6x - 10 = 26$
 $+10 +10$
 $6x = 36$
 $\frac{6x}{6} = \frac{36}{6}$
 $x = 6$
 Test!

Sep 20-8:32 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!).

Oct 2-7:58 AM

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 2-11:13 AM

October 3, 2018, Wednesday
Unit 3 - Right Triangle Trigonometry

State a minimum of 5 characteristics of the following triangle.

Sep 20-8:33 AM

Unit 3 - What is Right Triangle Trigonometry?

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

Handwritten notes:
 "theta" angle measure
 $\cos \theta = \frac{\text{adj}}{\text{hyp}}$
 $\tan \theta = \frac{\text{oppo}}{\text{adj}}$
 $\sin \theta = \frac{\text{oppo}}{\text{hyp}}$
 @ can more, it's the \angle you are looking for

Sep 20-8:48 AM

p585

SOHL TOA
 $\tan \theta = \frac{a}{b}$

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

Handwritten notes:
 copy the diagram
 p590 Use the tangent to find the unknown side length. #9-14
 $\tan \theta = \frac{\text{oppo}}{\text{adj}}$
 oppo side = 8.0
 adjacent = 4.1
 $8(\tan 2) = \frac{8}{4.1}$
 $4.1 = 0$
 p 590 Use the tan-1 to find the unknown angle measure #15-17
 inverse tangent \tan^{-1} OR arctan

Sep 20-10:57 AM

Use the tangent to find the unknown side length.

9. Find QR.
 $\tan 21 = \frac{32}{75}$
 $a \tan 21 = 13$
 $a \tan 21 = 13$
 $a = 33.9$

10. Find AC.
 4.1
 $\tan 45 = \frac{4.1}{8.0}$
 $8.4 = 0$

11. Find PQ.
 19
 19.2
 $6.3 = 0$

12. Find DE.
 13
 h
 21°

13. Find AB = 8.4.
 45°
 8.4
 h
 $\tan \theta = \frac{a}{b}$
 $8.4(\tan 45) = \frac{0}{8.4}$
 $8.4 = 0$

14. Find PR = 6.3.
 54°
 4.6
 h
 $6.3 = 0$

Oct 3-10:16 AM

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.

15. Find $\angle A$.
 3.0
 6.8

16. Find $\angle R$.
 9
 24
 h
 $\tan \theta = \frac{a}{b}$
 $\tan \theta = \frac{9}{24}$
 $\theta = \tan^{-1}(\frac{9}{24})$
 $\theta = 21^\circ$

17. Find $\angle B$.
 16
 17

Oct 3-10:17 AM

Oct 4, 2018, Wednesday

How do SOHCAHTOA help you remember the tangent ratio.

Set up the tangent ratio to solve for x.

$\tan \theta = \frac{o}{a}$
 $\tan 20^\circ = \frac{10}{x}$
 $x \tan 20^\circ = 10$
 $x = \frac{10}{\tan 20^\circ}$
 $x = 27.47$

Set up the tangent ratio to solve for theta.

$\tan \theta = \frac{o}{a}$
 $15 \tan 30^\circ = \frac{x}{15}$
 $8.7 = x$

$\tan \theta = \frac{o}{a}$
 $\tan \theta = \frac{3}{5}$
 $\theta = 31^\circ$

$\theta = \text{theta}$

Oct 3-11:42 AM

What does the tangent ratio help you find?

<https://youtu.be/BLHk7WkdKw> by Owens

Tangent Ratio explained, Owens

kuta practice

Sep 20-11:00 AM

Geometry Name: _____ ID: 1

The tangent ratio (TOA) Date: _____ Period: _____

Find the value of each trigonometric ratio to the nearest ten-thousandth.

1) $\tan 37^\circ$ 2) $\tan 78^\circ$

3) $\tan 16^\circ$ 4) $\tan 1^\circ$

Find the value of each trigonometric ratio.

5) $\tan Z$ 6) $\tan d$

7) $\tan C$ 8) $\tan X$

9) $\tan Z$ 10) $\tan C$

Oct 4-1:19 PM

Oct 5, 2018, Friday

Find the missing side. Round to the nearest tenth.

1) $\tan 37^\circ = \frac{12}{x}$
 A) 22.6 B) 24.9
 C) 6.4 D) 38.3

2) $\tan 40^\circ = \frac{10}{x}$
 A) 1.4 B) 2.7
 C) 2.9 D) 37.3

Find the measure of the indicated angle to the nearest degree.

3) $\tan 20^\circ = \frac{12}{x}$
 A) 20 B) 42
 C) 30 D) 70

4) $\tan 30^\circ = \frac{21}{x}$
 A) 30 B) 42
 C) 30 D) 70

Oct 4-1:33 PM

Copy p594 Trig Ratios

How does this fit in our SOHCAHTOA?

Sep 20-11:15 AM

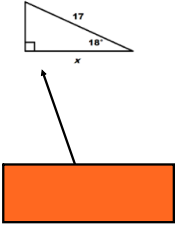
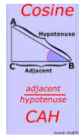
Let's start with sine (SOH)...

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

$\sin \theta = \frac{13 \text{ cm}}{x \text{ cm}}$

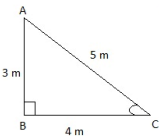
Sep 20-11:17 AM

& now for cosine (CAH)...



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://www.geogebra.org/m/ku57SuXzAmaterial1UZD6WVDo> ayooob trig ratio velving 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



Oct 2-1:44 PM