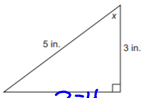
April 8, 2019, Monday - welcome back!

Item 8

Constructed-Response

Study the triangle.



Remember to copy the problem and show your work to arrive at the correct answer!

What is sin x? Explain how you determined your answer. Write your answer in the space provided.

Pyth Th
$a^2+b^2=c^2$
$3^2+?^2=5^2$
$?=4$
$\sin x = \frac{o}{h}$
$\sin x = \frac{4}{5}$
I used Pythagorean's Theorem to find the missing side, 4.
2pt

Points Awarded
2
1
0

Unit 6 Probability SG Name ______________________ S: ____

The table shows the number of endangered and threatened animal species in the United States as of 11/30/1998.

	Mammals	Birds	Reptiles	Amphibians	Other
Endangered	59	75	14	9	198
Threatened	8	15	21	7	69

1. Find the probability that a randomly selected animal is **an endangered mammal**.
$\frac{59}{475} = .12 = 12\%$
2. Find the probability that a randomly selected animal is **threatened but not a mammal, bird, reptile, or amphilians**.
$\frac{69}{120} = .58 = 58\%$
3. Find the probability that a randomly selected animal is an **endangered or threatened bird**.
$\frac{75+15}{475} = .19 = 19\%$
4. Find the probability that a randomly selected animal is a **reptile or a bird**.
$\frac{14+21+75+15}{475} = .26 = 26\%$

On April 15, 1912, the Titanic struck an iceberg and rapidly sank with only 710 of her 2,204 passengers and crew surviving. Data on survival of passengers are summarized in the table below.

	Survived	**Did not Survive**	**Total**
First class passengers	201	123	
Second class passengers		166	284
Third class passengers	181	528	709
Total passengers	500	817	

5. Complete the missing numbers in the frequency table above.
6. If one passenger is randomly selected, what is the probability that he/she was in third class?
$\frac{209}{1317} = 53\%$
7. If one passenger is randomly selected, what is the probability that this passenger was in second class and did not survive?
$\frac{166}{1317} = 13\%$
8. What is the probability that a randomly selected passenger survived, given that the passenger was not in first class?
$\frac{118+181}{1317} = 24\%$

A survey by the local newspaper in your community sampled 2200 students in your school about the use of drugs. It stated that through the anonymous survey, 324 of the students indicated that they had experimented with or currently use drugs. The school board is considering requiring a drug test for all students, so you decide to do some research. The drug testing company's website states that its tests are accurate 98% of the time. After the school-wide test, 318 tested accurately of those who said they take drugs. And of the kids that do not take drugs, 1,838 of them test accurately.

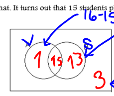
9. Complete the table at right.

	Takes Drugs	Does Not Take Drugs	
Tested Accurately	318	1838	2156
Tested Inaccurately	6	38	44
	324	1876	2200

10. If all of the students are required to take the drug test, how many of the students' tests will not be accurate?
$\frac{44}{2200} = 2\%$
11. How many students who do not take drugs will have a test that wrongly shows that they do take drugs?
$1876 * .02 = 38$

In a class of 32 students, 16 play video games and 28 Snapchat. It turns out that 15 students play video games and Snapchat. A student in this class is to be selected at random.

12. Complete the Venn diagram for this situation.



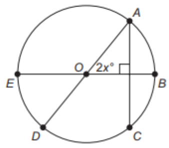
13. What is the probability of selecting a student who plays video games but does not Snapchat?
$1/32 = 3.1\%$
14. What is the probability of selecting a student who does not play video games or Snapchat?
$3/32 = 9\%$

April 9, 2019, Tuesday

Item 11

Selected-Response

Points A, B, C, D, and E are located on circle O, as shown in this figure.



...test

The measure of $\overset{\frown}{CD}$ is 80°. What is the value of x?

A. 50
B. 40
C. 35
D. 25

Item
11

Example Item 3

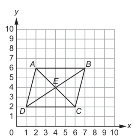
Extended Constructed-Response

DOK Level 3: This is a DOK Level 3 item because it requires complex reasoning.

Geometry Content Domain: Equations and Measurement

Standard: MGSE9-12.G.GPE.4. Use coordinates to prove simple geometric theorems algebraically.

***ABCD* is a parallelogram. Prove that the diagonals of *ABCD* bisect each other and justify each step. Write your answer in the space provided.**



Exemplar Response

Points Awarded	Sample Response
4	Line segments *AB* and *DC* are parallel, making angle *ABE* congruent to angle *CDE* and angle *BAE* congruent to angle *DCE* because they are alternate interior angles. **AND** Sides *AB* and *DC* are congruent because opposite sides of parallelograms are congruent. That means that triangle *ABE* and triangle *CDE* are congruent by angle-side-angle. **AND** Line segment *AE* is equal to *CE* and *BE* is equal to *DE* because Corresponding Parts of Congruent Triangles are Congruent (CPCTC). **AND** By definition, *AC* and *BD* bisect each other. *Or other valid explanation.*
3	The student correctly answers three of the four parts.
2	The student correctly answers two of the four parts.
1	The student correctly answers one of the four parts.
0	*Response is irrelevant, inappropriate, or not provided.*

Note: If a student makes an error in one part that is carried through to subsequent parts, then the student is not penalized again for the same error.

April 10, 2019, Wednesday

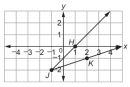
Handout today!

Unit 1: Transformations in the Coordinate Plane

REVIEW EXAMPLES

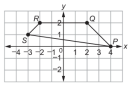
♦ Draw the image of each figure, using the given transformation.

a.



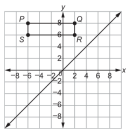
Use the translation $(x, y) \rightarrow (x - 3, y + 1)$.

b.



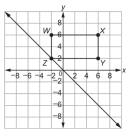
Reflect across the x-axis.

c.



Reflect across the line $y = x$.

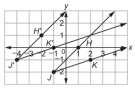
d.



Reflect across the line $y = -x$.

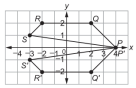
Solution:

a.



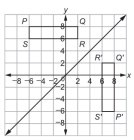
Identify the vertex and a point on each side of the angle. Translate each point 3 units left and 1 unit up. The image of given $\angle HJK$ is $\angle H'J'K'$.

b.



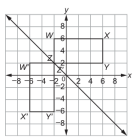
Identify the vertices. The reflection image of each point (x, y) across the x-axis is $(x, -y)$. The image of given polygon $PQRS$ is $P'Q'R'S'$, where P and P' are the same.

c.



Identify the vertices. The reflection image of each point (x, y) across the line $y = x$ is (y, x).

d.

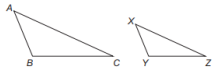


Identify the vertices. The reflection image of each point (x, y) across the line $y = -x$ is $(-y, -x)$.

April 11, 2019, Thursday

SAMPLE ITEMS

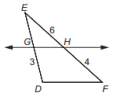
1. In the triangles shown, $\triangle ABC$ is dilated by a factor of $\frac{2}{3}$ to form $\triangle XYZ$.



Given that $m\angle A = 50°$ and $m\angle B = 100°$, what is $m\angle Z$?

A. 15°
B. 25°
C. 30°
D. 50°

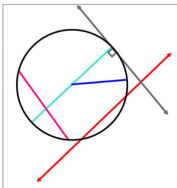
2. In the triangle shown, $\overline{GH} \parallel \overline{DF}$.



What is the length of $\overline{GE}$?

A. 2.0
B. 4.5
C. 7.5
D. 8.0

Geometry ~ U4 Day 1, 3/22/2017 Vocab., Tangents, & Central Angles Notes



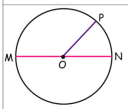
Chord:

Secant:

Tangent:

Radius:

Diameter:



MN is a diameter of Circle O.

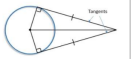
∠PON is a central angle.

PN is a Minor Arc.

PMN is a Major Arc.

MPN is a Semicircle.

Tangents

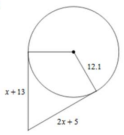


Theorem:

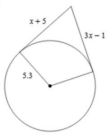
Also,

Solve for x. Assume that lines which appear to be tangent are tangent.

1)

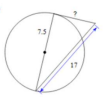


2)

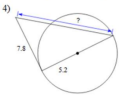


Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

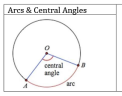
3)



4)



Arcs & Central Angles



Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

1)

2)

3) $m\angle VQS$

4) $m\overset{\frown}{JLN}$

Solve for x. Assume that lines which appear to be diameters are actual diameters.

5)

6)

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

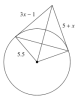
7) $m\angle URV$

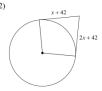
8) $m\overset{\frown}{JH}$

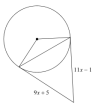
Geometry – Day 1, 3/23/2017 Name_____

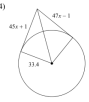
Tangents & Central Angles WS

Solve for *x*. Assume that lines which appear to be tangent are tangent.

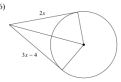
1) 

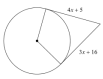
2) 

3) 

4) 

5) 

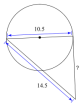
6) 

7) 

8) 

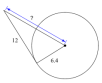
  Made with Infinite Geometry.

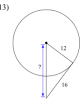
Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

9) 

10) 

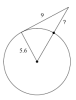
11) 

12) 

13) 

14) 

15) 

16) 

  Made with Infinite Geometry.

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

17) 

18) 

19) 

20) 

21) $m\overset{\frown}{QRS}$ 

22) $m\angle DAF$ 

23) $m\overline{SU}$ 

24) $m\overset{\frown}{IGH}$ 

  Made with Infinite Geometry.

Solve for *x*. Assume that lines which appear to be diameters are actual diameters.

25) 

26) 

27) 

28) 

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

29) $m\angle ECF$ 

30) $m\overset{\frown}{EF}$ 

31) $m\angle HJG$ 

32) $m\angle TRU$ 

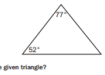
  Made with Infinite Geometry.

April 12, 2019, Friday

Item 1

Selected-Response

Look at the triangle.



Which triangle is similar to the given triangle?

A. 

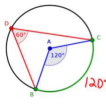
B. 

C. 

D. 

Geometry Name _____

Inscribed Angles: An inscribed angle is an angle with its vertex "on" the circle, formed by two intersecting chords.

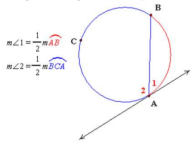


Inscribed Angle = $\frac{1}{2}$(Intercepted Arc)

m∠DBC = $\frac{1}{2}$ mBC

Tangent Chord Angle: An angle formed by an intersecting tangent and chord has its vertex "on" the circle.

Tangent Chord Angle = 1/2 (Intercepted Arc)



Geometry Name _____

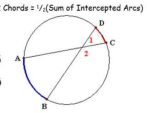
Angle Formed Inside of a Circle by Two Intersecting Chords:

When two chords intersect "inside" a circle, four angles are formed. At the point of intersection, two sets of vertical angles can be seen in the corners of the X that is formed on the picture. Remember: vertical angles are equal.

Angle Formed INSIDE by 2 Chords = $\frac{1}{2}$(Sum of Intercepted Arcs)

$m\angle 1 = \frac{1}{2}(m\overset{\frown}{CD} + m\overset{\frown}{AB})$

$m\angle 2 = \frac{1}{2}(m\overset{\frown}{BC} + m\overset{\frown}{AD})$



Angle Formed Outside of a Circle by the Intersection of:

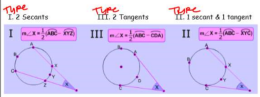
"Two Tangents" or "Two Secants" or "a Tangent and a Secant".

Angle Formed Outside = $\frac{1}{2}$(Difference of Intercepted Arcs)
ALWAYS start with Larger Arc

Type I: 2 Secants — $m\angle X = \frac{1}{2}(\overset{\frown}{ABC} - \overset{\frown}{XYZ})$

Type III: 2 Tangents — $m\angle X = \frac{1}{2}(\overset{\frown}{ABC} - \overset{\frown}{CDA})$

Type II: 1 secant & 1 tangent — $m\angle X = \frac{1}{2}(\overset{\frown}{ABC} - \overset{\frown}{XYC})$

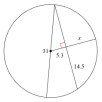


Geometry – Day 2, 10/14/2016 Name_____

Chords, Tangents, & Secants HW

Find the length of the segment indicated. Round your answer to the nearest tenth if necessary.

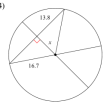
1)



2)

3)

4)



Find the measure of the arc or angle indicated.

5)

6)

7) Find $m\angle BAC$

8) Find $m\overset{\frown}{ML}$

Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

9) Find $m\angle BAC$

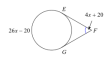
10) Find $m\angle STR$

11) Find $m\overset{\frown}{DE}$

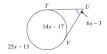
12) Find $m\overset{\frown}{AS}$

13) Find $m\angle KLM$

14) Find $m\angle EFG$



15) Find $m\angle VUT$



16) Find $m\angle TSR$

17) Find $m\angle PQR$

18) Find $m\angle ABC$

19) Find $m\overset{\frown}{KL}$

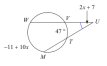
20) Find $m\overset{\frown}{KNL}$

21) Find $m\angle VTF$

22) Find $m\angle WUF$

23) Find $m\overset{\frown}{BD}$

24) Find $m\angle WUM$



25) Find $m\overline{TV}$

26) Find $m\angle RSU$

27) Find $m\overset{\frown}{WVT}$

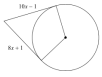
28) $m\overset{\frown}{VK} = 22x + 11$
Find $m\overset{\frown}{NVK}$

Geometry – U4 Day 2, 3/23/2017 Name_____

TOTD – Tangents, Central Angles, & Arcs

Solve for x. Assume that lines which appear to be tangent are tangent.

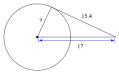
1)



2)

Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

3)



4)

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

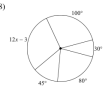
5) $m\angle JEG$

6) $m\overset{\frown}{JLN}$

Solve for x. Assume that lines which appear to be diameters are actual diameters.

7)

8)



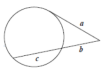
Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

9) $m\angle IEJ$

10) $m\overset{\frown}{JF}$

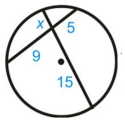
April 12, 2019, Friday

SEGMENT LENGTHS: INTERSECTING CHORDS, SECANTS, & TANGENTS

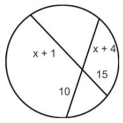
Intersecting chords (or secants) on the interior of a circle.	Two secants intersecting on the exterior of a circle.	A secant and a tangent intersecting on the exterior of a circle.
		
$a \cdot b = c \cdot d$	$a(a+b) = c(c+d)$	$a^2 = b(b+c)$

Intersecting Chords

1)



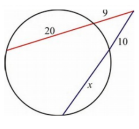
2)



Intersecting 2 Secants (on Exterior)

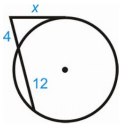
1)

2)

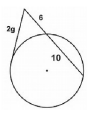


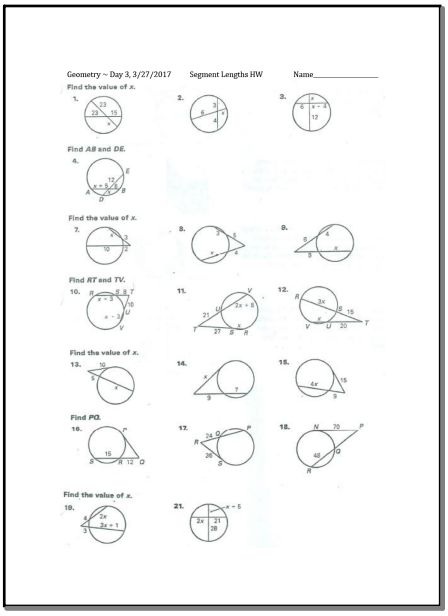
Intersecting Secant & Tangent (on Exterior)

1)



2)





Geometry ~ Day 3, 3/27/2017 Segment Lengths HW Name_____

Find the value of *x*.

1. 2. 3.

Find *AB* and *DE*.

4.

Find the value of *x*.

7. 8. 9.

Find *RT* and *TV*.

10. 11. 12.

Find the value of *x*.

13. 14. 15.

Find *PQ*.

16. 17. 18.

Find the value of *x*.

19. 21.