PRE-CALCULUS

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See my website for PowerPoint

- NOTE: You must be signed in to view the PPT!

- http://schoolwires.henry.k12.ga.us/Domain/5496

OR

Unit Activities → TKES Standards

- Unit 1: Incorporating Student Voice/Choice when utilizing Trigonometry to model periodic phenomena.
- Unit 2: Discovering Inverse Trig Functions; Inverse Organizer
- Unit 3: Hinge Theorem Visual Aide
- Unit 4: Identity Organizer, parts 1 and 2
- Unit 5: Code Breaking with Matrices; Student-created rubric and Intro to Service Learning
- Unit 6: The Focus is on the Ellipse Visual Aide
- Unit 8: Service Learning and Probability

Unit 1 & TKES 3 - Instructional Delivery

Incorporating Student Voice/Choice when utilizing Trigonometry to model periodic phenomena.

Temperature	Rope Swing	Boating	Rollercoaster

- Small groups of 1-3 formed by students
- Max groups per topic (2 or 3, depending on class size).
- Each group writes *at least one* Sine and Cosine function.

The application problems are already out there… its all about the presentation!

4-4 Word Problem Practice

Graphing Sine and Cosine Functions

1. METEOROLOGY The average monthly temperatures for Baltimore, Maryland, are shown below.

Month	Temperature (°F)	Month	Temperature (°F)
Jan	32	July	77
Feb	35	Aug	76
Mar	44	Sept	69
Apr	53	Oct	57
May	63	Nov	47
June	73	Dec	37

a. Determine the amplitude, period, phase shift, and vertical shift of a sinusoidal function that models the monthly temperatures using $x = 1$ to represent January.

b. Write an equation of a sinusoidal function that models the monthly temperatures.

c. According to your model, what is Baltimore's average temperature in July? December?

2. BOATING A buoy, bobbing up and down in the water as waves pass it, moves from its highest point to its lowest point and back to its highest point every 10 seconds. The distance between its highest and lowest points is 3 feet.

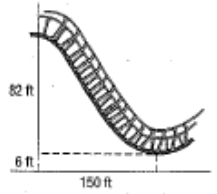
a. Determine the amplitude and period of a sinusoidal function that models the bobbing buoy.

b. Write an equation of a sinusoidal function that models the bobbing buoy, using $x = 0$ as its highest point.

3. A student graphed a periodic function with a period of n. The student then translated the graph c units to the right and obtained the original graph. Describe the relationship between c and n.

4. SWING Marsha is pushing her brother Bobby on a rope swing over a creek. When she starts the swing, he is 7 feet over land away from the edge of the creek. After 2 seconds, Bobby is 11 feet over the water past the edge of the creek. Assume that the distance from the edge of the creek varies sinusoidally with time and that the distance y is positive when Bobby is over the water and negative when he is over land. Write a trigonometric function that models the distance Bobby is from the edge of the creek at time t seconds.

5. ROLLER COASTER Part of a roller coaster track is a sinusoidal function. The high and low points are separated by 150 feet horizontally and 82 feet vertically as shown. The low point is 6 feet above the ground.



a. Write a sinusoidal function that models the distance the roller coaster track is above the ground at a given horizontal distance x.

b. Point A is 40 feet to the right of the y-axis. How far above the ground is the track at point A?

Unit 1 & TKES 3 - Instructional Delivery

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Unit 1 & TKES 3 - Instructional Delivery

2. BOATING A buoy, bobbing up and down in the water as waves pass it, moves from its highest point to its lowest point and back to its highest point every 10 seconds. The distance between its highest and lowest points is 3 feet.

a. Determine the amplitude and period of a sinusoidal function that models the bobbing buoy.

b. Write an equation of a sinusoidal function that models the bobbing buoy, using $x = 0$ as its highest point.

Unit 1 & TKES 3 - Instructional Delivery

4. **SWING** Marsha is pushing her brother Bobby on a rope swing over a creek. When she starts the swing, he is 7 feet over land away from the edge of the creek. After 2 seconds, Bobby is 11 feet over the water past the edge of the creek. Assume that the distance from the edge of the creek varies sinusoidally with time and that the distance y is positive when Bobby is over the water and negative when he is over land. Write a trigonometric function that models the distance Bobby is from the edge of the creek at time t seconds.

Unit 1 & TKES 3 - Instructional Delivery

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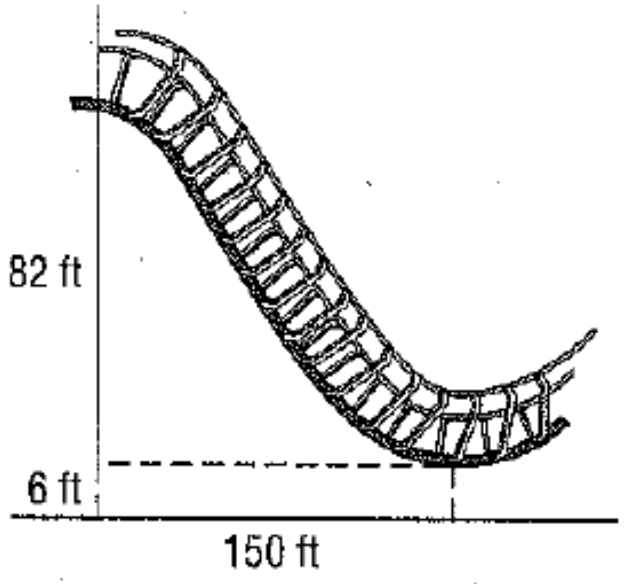


Unit 2 & TKES 5 – Assessment Strategies

- I like to utilize Extra Credit on Assessments to pre-assess the next concept
  - Within same unit
  - For next unit
- Might employ like-ability flexible grouping (my fave!)
- May employ mixed-ability flexible grouping (rare)

Unit 2 & TKES 5 – Assessment Strategies

EXAMPLE EXTRA CREDIT USED FOR GROUPING (max test grade = ____):

A.) (2 pts) $sin^{-1}\left(\cos\frac{3\pi}{4}\right) =$ _____.

B.) (2 pts) A function and its inverse are reflections of one another over the line _____.

C.) (2 pts) Write the equation for $f^{-1}(x)$ if $f(x) = 2x - 7$. $f^{-1}(x) =$ _____

D.) (2 pts) If $g(x)$ contains a vertical asymptote of $x = -1$, and

has x- and y-intercepts of $(2,0), (-3,0), and\ (0,-6)$,

list the following items on $g^{-1}(x)$: x-int: _____ y-int: _____

known asymptote(s): _____

E.) (5 pts) Write the equation for $h^{-1}(x)$ if $h(x) = \frac{1-3x}{1-x}$. $h^{-1}(x) =$ _____

Unit 2 & TKES 6 – Assessment Uses

LIKE-ABILITY:

Beginner (0-60)	On The Way (61-79)	Got It (80-89)	Rockstar (90-100+)
Sheng G	Jackson W	Joseph D	Logan B
Clay G	Marc F	Tyler H	Jackson R
Noah F	Sydney T	Jovany L	
Cameron M		Brittany H	

MIXED-ABILITY:

Partners

Logan B & Noah F ; Jackson R & Clay G ; Tyler H & Cameron M ; Jovany L & Sheng

Brittany H & Marc F; Joseph D & Sydney T & Jackson W

Unit 2 & TKES 3 – Instructional Strategies

Unit 2 – Recalling INVERSES of Rational Functions

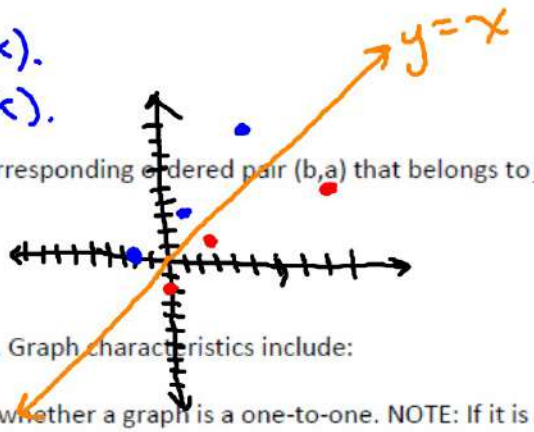
Reminders about Inverses:

An inverse function for $f(x)$, labeled $f^{-1}(x)$ and read "f inverse of x" contains the same domain and range elements as the original function, f(x)...just switched...like this:

- The Domain of $f(x)$ = The Range of $f^{-1}(x)$.
- The Range of $f(x)$ = The Domain of $f^{-1}(x)$.

Every ordered pair (a,b) belonging to $f(x)$ has a corresponding ordered pair (b,a) that belongs to $f^{-1}(x)$...like this:

- $g(x)$: {(-2,0), (1,3), (5,9)}
- $g^{-1}(x)$:{(0,-2), (3,1), (9,5)}



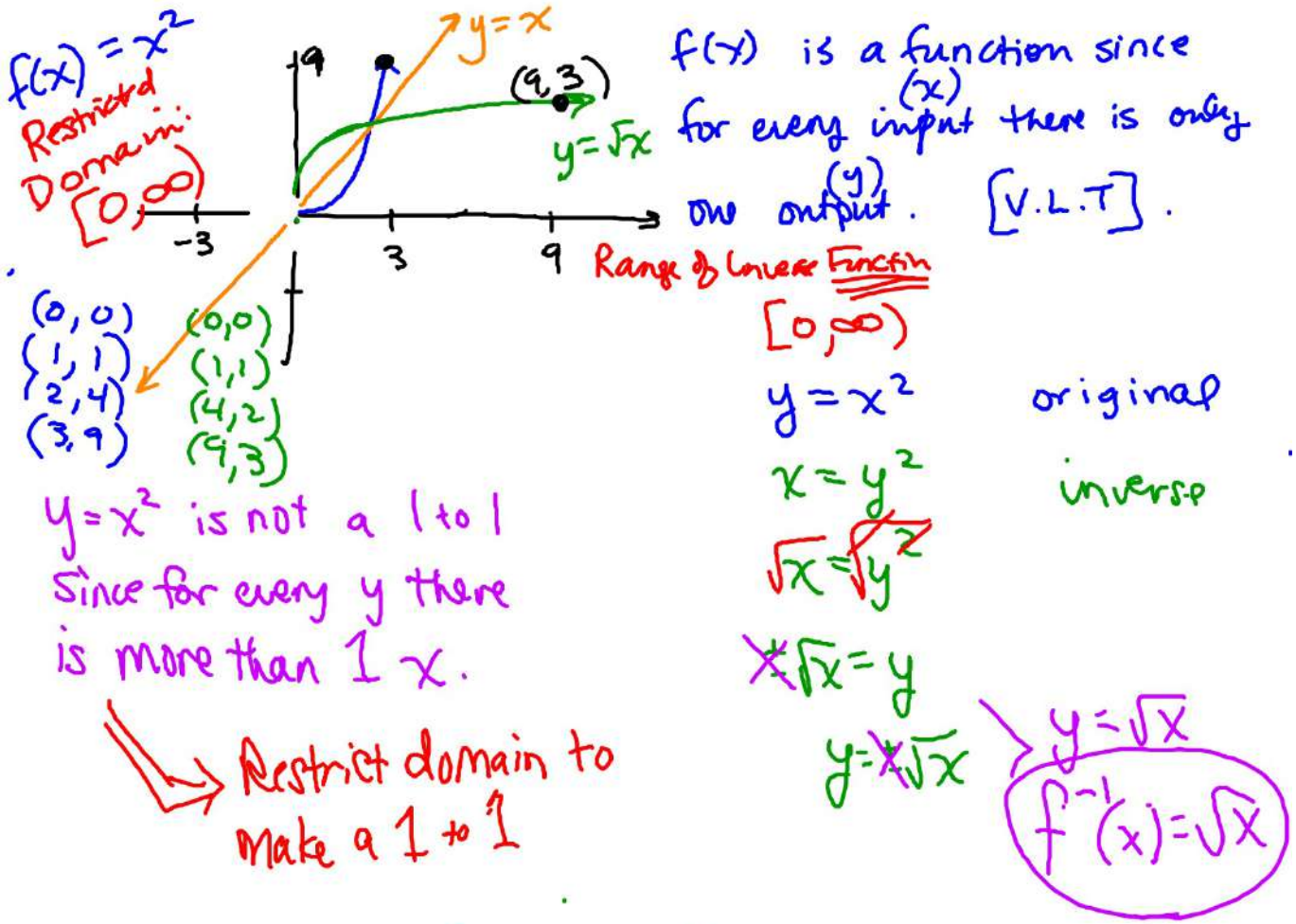
Only one-to-one functions have inverse functions. Graph characteristics include:

- Horizontal Line Test is used to determine whether a graph is a one-to-one. NOTE: If it is not, you can limit the domain so that it will be a one-to-one.
- Range elements correspond to only one domain element..."for every output, there is only one input"
- Graphs of functions and their inverses are reflections of one another across the line y = x.

When you compose an inverse function with its original function, both functions cancel out...like this:

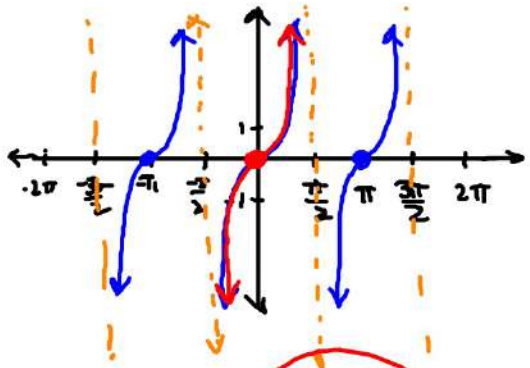
- $f(f^{-1}(x)) = f^{-1}(f(x)) = x$

Unit 2 & TKES 3 – Instructional Strategies



Unit 2 & TKES 3 – Instructional Strategies

y = tan x



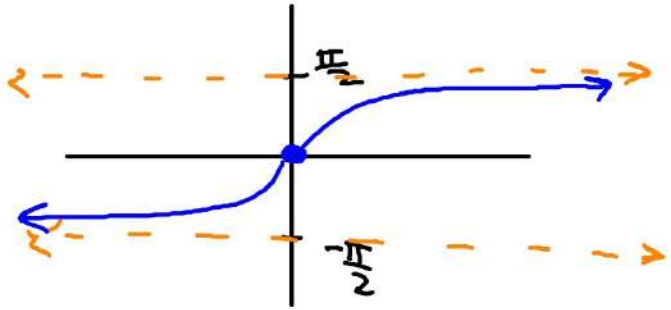
D: $\left(\frac{-3\pi}{2}, \frac{-\pi}{2}\right) \cup \left(\frac{-\pi}{2}, \frac{\pi}{2}\right) \cup \left(\frac{\pi}{2}, \frac{3\pi}{2}\right)$

Restricted Domain: $\left(\frac{-\pi}{2}, \frac{\pi}{2}\right)$

R: $(-\infty, \infty)$

VA: $x = \frac{-\pi}{2}, \frac{\pi}{2}$

y = tan^{-1} x

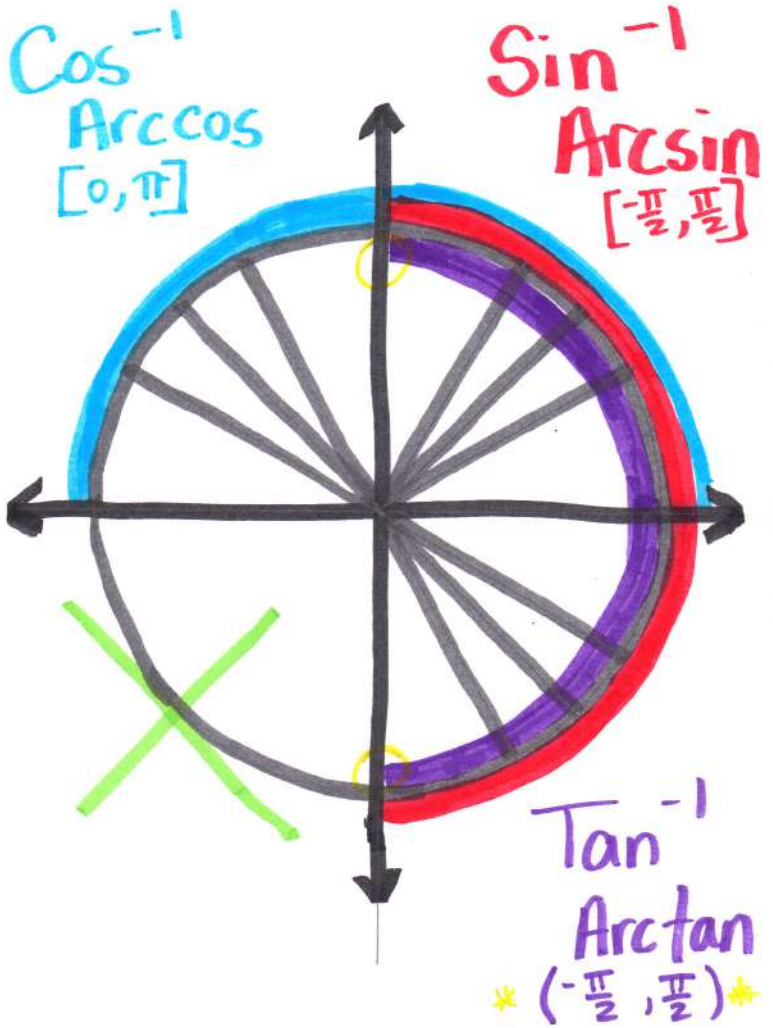


D: $(-\infty, \infty)$

Restricted Range: $\left(\frac{-\pi}{2}, \frac{\pi}{2}\right)$

HA: $y = \frac{-\pi}{2}, \frac{\pi}{2}$

Unit 2 & TKES 3 – Instructional Strategies



Unit 3 & TKES 4 – Differentiated Instruction

- The Hinge Theorem is very visual.
- Bring 3-4 students to the front of the room to demonstrate ambiguous case
  - Rulers
  - Compass
- OR…prepare in advance

Unit 3 & TKES 4

Differentiated Instruction

Georgia Department of Education
Georgia Standards of Excellence Framework
GSE Pre-Calculus • Unit 3

THE HINGE THEOREM

MGSE9-12.G.SRT.10 Prove the Laws of Sines and Cosines and use them to solve problems.

MGSE9-12.G.SRT.11 Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles

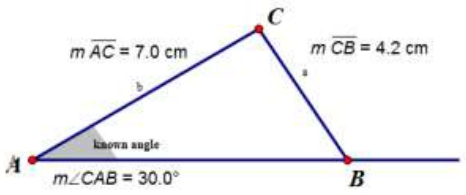
Introduction:

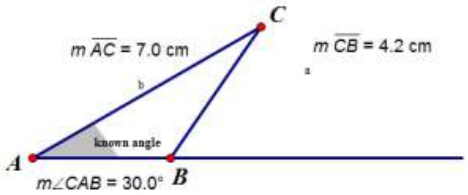
Although the Hinge Theorem is not part of the standards, this task makes a connection to concepts already known by the student and the Law of Sines. This exploration works well with construction software if it is available.

THE HINGE THEOREM

From your previous math experience you know that the measures of two sides and a non-included angle will not necessarily work together to create a triangle. The Hinge Theorem is a geometric theorem that focuses on this idea. You may have explored this idea when you studied congruent triangles.

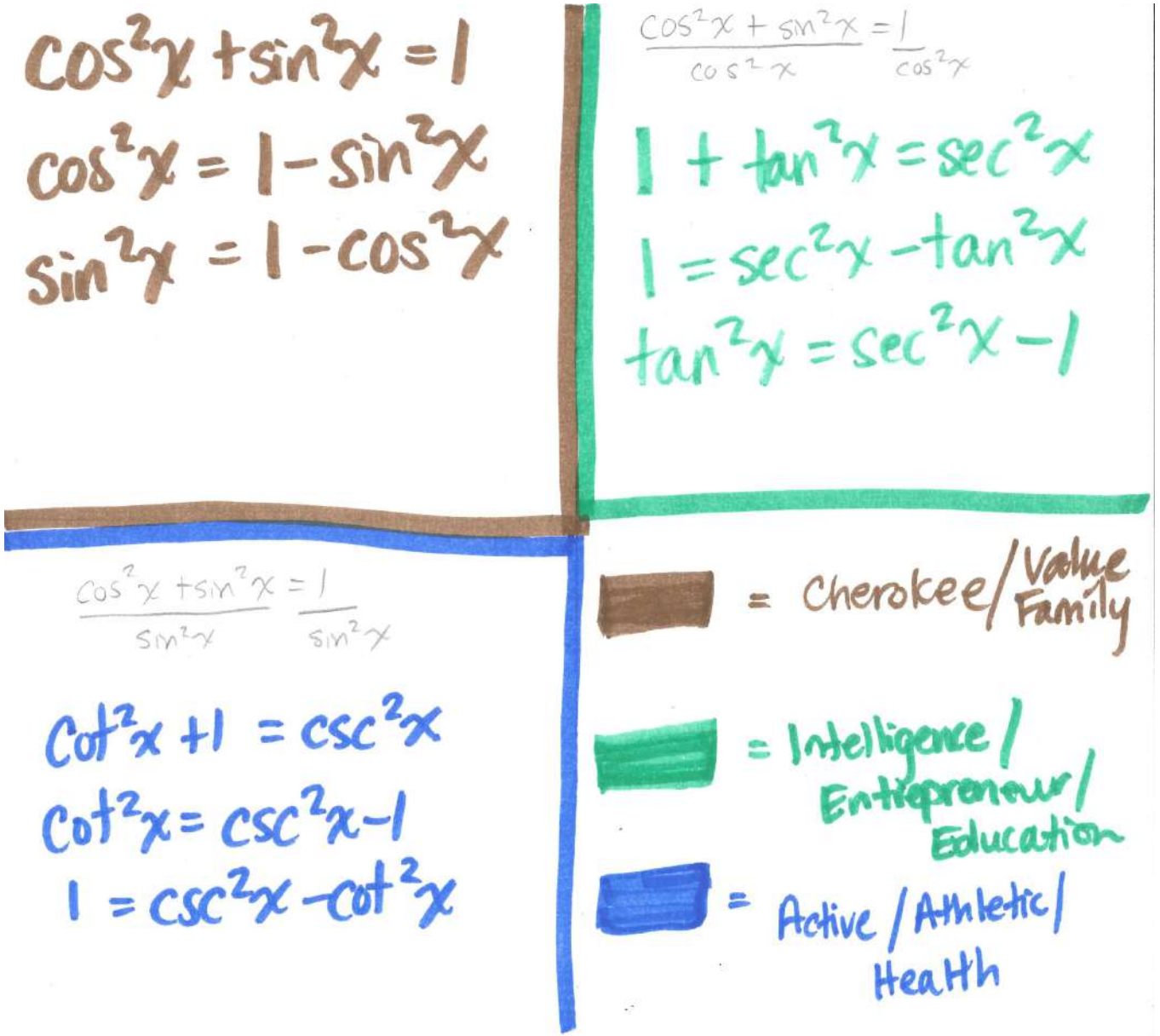
Consider the two triangles below. Given sides of 7 cm and 4.2 cm with a non-included angle of 30°, there are two triangles that can be created. This is why angle-side-side is not a congruency theorem for triangles.





Unit 4 & TKES 7 – Positive Learning

- Identity Organizer – pg 1

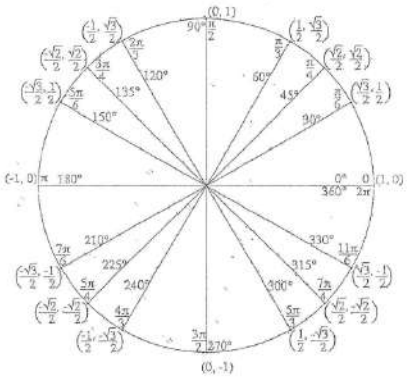


Unit 4 & TKES 7 – Positive Learning Environment for all

- Identity Organizer – pg 2

$\cos(\alpha + \beta) = \cos\alpha\cos\beta - \sin\alpha\sin\beta$

$\cos(\alpha - \beta) = \cos\alpha\cos\beta + \sin\alpha\sin\beta$



$\sin(\alpha + \beta) = \sin\alpha\cos\beta + \cos\alpha\sin\beta$

$\sin(2\theta) = \sin(\theta + \theta)$
$= \sin\theta\cos\theta + \cos\theta\sin\theta$
$= 2\sin\theta\cos\theta$

$\sin(\alpha - \beta) = \sin\alpha\cos\beta - \cos\alpha\sin\beta$

$\cos(2\theta) = \cos(\theta + \theta)$
$= \cos\theta\cos\theta - \sin\theta\sin\theta$
$= \cos^2\theta - \sin^2\theta$

Unit 4 & TKES 5 – Assessment Strategies

Name:	Name:	Name:	Name:
Beginner	**On the Way**	**Got It!**	***ROCKSTAR***
Simplify: $\frac{1}{\cos(x)}(1-sin^2x)$	Rewrite as an expression that does not involve a fraction: $\frac{1+tan^2x}{csc^2x}$	Simplify: $\cos x \tan x - sinx\, cos^2x$	Simplify: $\frac{\sec x}{1-\sec x} - \frac{\sec x}{1+\sec x}$

Unit 4 & TKES 5 – Assessment Strategies

PICK 4 of the following problems to simplify completely. (Kudos to the ROCKSTARS completing the harder problems!!)
Write question number and show all work in the boxes provided. Write final answers in the corresponding space provided.

1.) $(1 - sin^2x)(1 + tan^2x)$

2.) $\frac{cotx + 1}{sin\,x + \cos x}$

3.) $\frac{\sin x + \tan x}{\csc x + \cot x}$

4.) $\frac{sec^2x}{sec^2x - 1}$

5.) $\frac{sinx + sinx\,tan^2x}{\tan x}$

6.) $\frac{1}{(1 - sinx)(1 + sinx)}$

7.) $cos^2x\,sec^2x - cos^2x$

8.) $\frac{\cos^2 x}{1 - \sin x}$

Unit 5 & TKES 8: Learning Environment & Self-Directed Learners

Code Breaking with Matrices Cumulative Task

Your task is to encode a message using matrices that can be sent and decoded by someone with the key. Use what you know about the properties of matrices and matrix inverses to accomplish this.

Your final deliverable product should include the following:

- On one page:
  - Your original message (at least 12 characters long)
  - A mathematical statement showing how to encode and decode messages using matrices.
- On another page:
  - Your encoded message
  - Valid Key
  - A spot for your name and your partner's name who will be decoding your encoded message

You will be graded on:

- Whether or not your code works
- Whether or not your key was correct
- Whether or not you successfully de-coded your partner's message

Unit 5 & TKES 8: Learning Environment & Self-Directed Learners

	4 points	3 points	2 points	1 point	0 points
Completed	Submitted				Did not submit
Followed Instructions	TE & SE		Only TE	Only SE	Did not submit
TE Works	1st attempt correct	2nd attempt correct	Reasonable effort but incorrect		Did not submit
SE Works	Clear & complete instructions with equation – 1st attempt	Clear & complete instructions with equation – 2nd attempt	Unclear and/or incomplete instructions		Did not submit
Successful Decoding of Partner's Code *(Partner's SE/TE Correctness is irrelevant)*	100% correct math	75 – 99 % correct math	50 – 74 % correct math	25 – 49 % correct math	0 – 24% correct math

– GRADING RUBRIC

TOTAL SCORE: _____

(If late, only half credit)

Unit 6 & TKES 3: Instructional Strategies

- The Focus is on The Ellipse Learning Task

Georgia Department of Education
Georgia Standards of Excellence Framework
GSE Pre-Calculus • Unit 6

The Focus is the Foci: Ellipses and Hyperbolas

Translate between the geometric description and the equation for a conic section.
MGSE9-12.G.GPE.3 Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

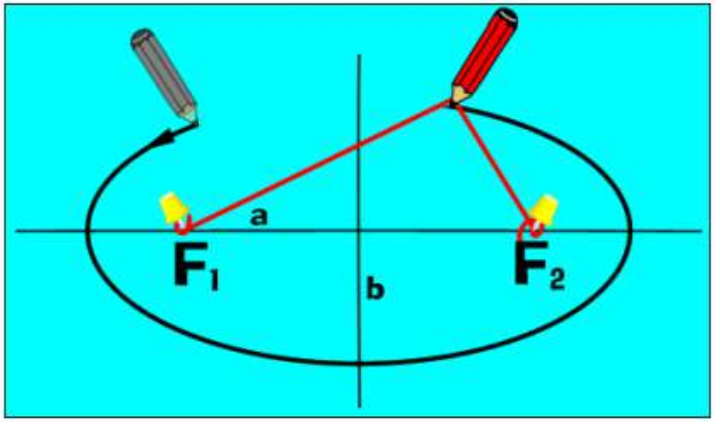
Unit 6 & TKES 3: Instructional Strategies

- **Simple, quick, and efficient** way of getting students to think of conic sections beyond formulas

- **Emphasizes** that **students understand how** the locus of points that make up ellipses and hyperbolas relate to the fixed points known as foci

Unit 6 & TKES 3: Instructional Strategies

We're going to start our study of ellipses by doing a very basic drawing activity. You should have two thumb tacks, a piece of string, a piece of cardboard, and a pencil. Attach the string via the two tacks to the piece of cardboard. Make sure to leave some slack in the string when you pin the ends down so that you can actually draw your outline! Trace out the ellipse by moving the pencil around as far as it will go with the string, making sure that the string is held tight against the pencil.



Of course, you should notice that the shape that results from this construction is an oval. (The term oval is not precise and includes many closed rounded shapes. This particular oval is an ellipse.)

(a) What do the two thumbtacks represent in this activity?

Unit 8 & TKES 8 – Student-Centered Environment

Pre-Survey

SELF-RESPECT

1. Do you get at least 9 hours of sleep each night?
   ☐YES ☐NO
2. Do you maintain good personal hygiene, ie bathe every day, and keep your hands and face clean?
   ☐YES ☐NO
3. Do you abstain from (avoid) using drugs and alcohol?
   ☐YES ☐NO
4. Do you resist peer pressure?
   ☐YES ☐NO
5. Do you open up to others about your feelings and emotions?
   ☐YES ☐NO
6. Do you give your personal best in school and work hard?
   ☐YES ☐NO

PEER-RESPECT

7. Do you feel bullied at your school?
   ☐YES ☐NO
8. Do you feel bullied outside of school?
   ☐YES ☐NO
9. For what reason(s) have you been bullied?
   ☐I have never been bullied
   ☐For the way I look
   ☐For the people I hang out with
   ☐For the things I like to do
   ☐Other _____
10. If you witnessed someone being bullied, would you try to help him or her?
    ☐YES ☐NO
11. Do you feel comfortable telling an adult about a bully?
    ☐YES ☐NO
12. Do you have at least one teacher or adult that you feel comfortable talking to?
    ☐YES ☐NO

RESPECTING AUTHORITY

13. When do you feel it is important to respect authority?
    ☐ALWAYS ☐SOMETIMES ☐ONLY WHEN I WANT
14. Do you think respecting authority leads to success?
    ☐YES ☐NO
15. Do you consider yourself respectful towards authority?
    ☐YES ☐NO ☐SOMETIMES
16. Do you think authority figures find you respectful?
    ☐YES ☐NO ☐SOMETIMES
17. Do you believe it is a good thing to respect authority even when the authority figure is not respecting you?
    ☐YES ☐NO ☐SOMETIMES ☐IT DEPENDS

PRE-Survey Results: RAPS Service Learning Project 2015

#	yes	no	some-times	always	it depends	only	c1	c2	c3	c4	c5	didn't answer
1	169	119										1
2	278	11										
3	263	26										
4	209	78	2									2
5	153	135										2
6	260	28										1
7	75	215										
8	31	264										
9							150	76	54	68	47	3
10	260	31										1
11	218	66										1
12	242	48										1
13			55	226		9						
14	261	17										1
15	224	9	60									
16	176	19	86									1
17	135	44	32		81							

Unit 8 & TKES 8: Student-Centered Environment

Respect for AUTHORITY

1. What is the probability of (5) 6th graders out of (278) 6th grader students acknowledging that respecting authority leads to success?

Respect for PEERS

2. How many different support groups can be formed in a class of twenty for students who are feeling bullied?
3. What is the probability of students choosing "no" on question 10 or 12?

Respect for SELF

4. We realize some students may have ignored the questions and randomly selected their pre-survey answers. If two students randomly selected their answers for each of the 6 questions, and each question had 3 answer choices, what is the probability that the two students would have the exact same answers for each question?
5. How many different ways are there to select (2) students out of the (6) volunteers to participate in the book stress simulation?

MISC Presentation

6. How many different arrangements of the assembly could we have performed if the order was randomly selected?
7. Assuming random selection, what is the probability of arranging the assembly in the same exact order the second time?

Unit 8 & TKES 9,10 – Reflection & Communication

Dear Board Member(s):

Throughout my educational career I have always felt a gap between real world applications and the content we are taught in classrooms. But as Service Learning was introduced I began to see the importance of what we learn. Our class participated in a Respect Campaign and collaborated with a performer, Judah Swilley, and worked together as a class to spread the importance of respect to the Sixth grade class at Locust Grove Middle School. Trying to Parallel math with this project seemed impossible but in the end it was worth it. Each group presented activities to the sixth graders and collected data from a Pressurey we administered. I believe that our class wouldn't have been able to witness our potential to run a project that we did all by ourselves without this experience. We were able to step into the role of an adult for a time and plan and execute a project that taught me the value of good time management.

Ms. Seigle's 6th period math class not only built stronger internal relationships but stronger academic attitudes as well and I would love to see our class Project, as well as others around our School, expand and become a school wide, and county wide, endeavor. To spread positive attitudes and to promote education with Participation.

Unit 8 & TKES 9,10 – Reflection & Communication

Dear Board Member(s):

Service learning was an amazing experience. It challenged everyone to really think how we can help the community and incorporate math with it. We thought about as a class and decided to teach respect to the Locust Grove Middle School 6th graders. We incorporated probability with our surveys we collected. Service learning was a heart-whelming experience because we got to teach the 6th graders how to be respectful and interact with them. I highly recommend to repeat the service learning projects because it not only does good for the community but uses the cirriculum as well.

SIGNATURE: _____

Unit 8 & TKES 8: Student-Centered Environment

Seigle's SERVICE LEARNING Rubric – SELF

Student: _____ Group: _____ Date: _____

	NEEDS IMPROVEMENT (mark 0 or 1 point)	BELOW AVERAGE (mark 2 or 3 points)	AVERAGE (mark 4 points)	ABOVE AVERAGE (mark 5 points)
Attitude/Behavior	Student is **rarely or never**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude	Student is **occasionally**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude	Student is **usually**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude	Student is **consistently**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude • constructively critiques others' ideas or work.
On Task	Student is **rarely or never** • engaged • on task Requires direction	Student is **occasionally**: • Engaged • On task Needs direction	Student is **usually**: • Engaged • On task • Self-directed	Student is **consistently**: • Engaged • On task • Very self-directed
Contributions	Student **rarely or never**: • provides useful ideas • contributes any effort • arrives prepared May refuse to participate.	Student **occasionally**: • provides useful ideas • contributes (below average effort) • arrives prepared	Student **usually**: • provides useful ideas • contributes average effort • arrives prepared with necessary materials, if any	Student **consistently**: • provides useful ideas • contributes above average effort • arrives prepared with necessary materials, if any
Collaboration	Student **rarely or never**: • listens to, shares with, and supports the efforts of others • encourages others' attempts to participate; often disrupts	Student **occasionally:** • listens to, shares with, and supports the efforts of others • listens or respond • disrupts	Student **usually**: • listens to, shares with, and supports the efforts of others • actively listens or responds	Student **consistently**: • listens to, shares with, and supports the efforts of others • ensures others feel comfortable sharing • actively listens or responds
Quality of Work	Provides **illegible work** that **reflects very little effort** or does not turn in any work.	• Provides **below average** work and/or work that is late or incomplete	• Provides **average quality** work that reflects an effort from the student. • On time	• Provides **above-average quality** work that reflects the student's best efforts. • On time

Additional Notes (required):

Unit 8 & TKES 8: Student-Centered Environment

Seigle's SERVICE LEARNING Rubric – SAME GROUP

Student: _____ Group: _____ Date: _____

Group Member Evaluated Below: _____

	NEEDS IMPROVEMENT (mark 0 or 1 point)	BELOW AVERAGE (mark 2 or 3 points)	AVERAGE (mark 4 points)	ABOVE AVERAGE (mark 5 points)
Attitude/Behavior	Student is **rarely or never**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude	Student is **occasionally**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude	Student is **usually**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude	Student is **consistently**: • awake • not disruptive • respectful of self, others, and teacher, • has a positive attitude • constructively critiques others' ideas or work.
On Task	Student is **rarely or never** • engaged • on task Requires direction	Student is **occasionally**: • Engaged • On task Needs direction	Student is **usually**: • Engaged • On task • Self-directed	Student is **consistently**: • Engaged • On task • Very self-directed
Contributions	Student **rarely or never**: • provides useful ideas • contributes any effort • arrives prepared May refuse to participate.	Student **occasionally**: • provides useful ideas • contributes (below average effort) • arrives prepared	Student **usually**: • provides useful ideas • contributes average effort • arrives prepared with necessary materials, if any	Student **consistently**: • provides useful ideas • contributes above average effort • arrives prepared with necessary materials, if any
Collaboration	Student **rarely or never**: • listens to, shares with, and supports the efforts of others • encourages others' attempts to participate; often disrupts	Student **occasionally:** • listens to, shares with, and supports the efforts of others • listens or respond • disrupts	Student **usually**: • listens to, shares with, and supports the efforts of others • actively listens or responds	Student **consistently**: • listens to, shares with, and supports the efforts of others • ensures others feel comfortable sharing • actively listens or responds
Quality of Work	Provides **illegible work** that **reflects very little effort** or does not turn in any work.	• Provides **below average** work and/or work that is late or incomplete	• Provides **average quality** work that reflects an effort from the student. • On time	• Provides **above-average quality** work that reflects the student's best efforts. • On time

Additional Notes (required):

Unit 8 & TKES 8: Student-Centered Environment

Seigle's SERVICE LEARNING Rubric – OTHER GROUP

Student: _____ Group Evaluated Below: _____ Date: _____

	BELOW Standard (0-1)	APPROACHING Standard (2-3)	AT Standard (4)	ABOVE (5)
Delivery	The group **rarely or never**: • presents ideas clearly, concisely, and logically; audience cannot follow • uses a style appropriate to the purpose, and audience	The group **usually**: • presents ideas clearly, concisely, and logically; sometimes hard to follow • uses style appropriate to the purpose and audience	The group **consistently**: • presents ideas clearly, concisely, and logically; audience can easily follow • uses a style appropriate to the purpose and audience	
Organization	The group **rarely or never**: • meets requirements for what should be included in the presentation • has an introduction and/or summary • uses time wisely (too short or too long)	The group **usually**: • meets most requirements for what should be included in the presentation • has an introduction and conclusion • organizes time decently	The group **consistently**: • meets all requirements for what should be included in the presentation • has a clear introduction and conclusion • organizes time well	
Engagement	• does not look at audience • does not use gestures or movements • lacks poise and confidence • does not dress appropriately	• makes infrequent eye contact • uses a few gestures or movements • shows some poise and confidence • makes some attempt to wear clothing appropriate for the occasion	• keeps eye contact with audience most of the time • uses natural gestures and movements • looks poised and confident • wears clothing appropriate for the occasion	
Voice of Speaker(s)	• mumbles or speaks too quickly or slowly • speaks too softly to be understood	• speaks clearly most of the time • speaks loudly enough for the audience to hear most of the time, but may speak in a monotone	• speaks clearly; not too quickly or slowly • speaks loudly enough for everyone to hear; changes tone and pace to maintain interest	
Presentation Aids	• does not use audio/visual aids/media or dramatic interpretation	• uses audio/visual aids/media or dramatic interpretation, but sometimes has trouble inserting smoothly into the presentation	• uses well-produced audio/visual aids/media or dramatic interpretation to enhance understanding	
Team Participation	• Not all team members participate	• All team members participate, but not equally	• All team members participate for about the same length of time	

Additional Notes (required):

Unit 8 & TKES 8: Student-Centered Environment

Unit 8 Service Learning Project (#RAPS & Probability)		
PEER	Group Average:	25.75
	Individual Average:	
	Rubrics Submitted:	
	Seigle's Group Score:	25
	FINAL GRADE:	

Unit 8 Service Learning Project (#RAPS & Probability)		
PEER	Group Average:	25.75
	Individual Average:	
	Rubrics Submitted:	
	Seigle's Group Score:	25
	FINAL GRADE:	

Unit 8 Service Learning Project (#RAPS & Probability)		
SELF	Group Average:	24.972
	Individual Average:	
	Rubrics Submitted:	
	Seigle's Group Score:	25
	FINAL GRADE:	

Unit 8 Service Learning Project (#RAPS & Probability)		
AUTHORITY	Group Average:	19.556
	Individual Average:	
	Rubrics Submitted:	
	Seigle's Group Score:	20
	FINAL GRADE:	

Thank you!

- Please complete Exit Survey:
  - http://tinyurl.com/PDsurvey2015-16 OR

- See my website for PowerPoint
  - NOTE: You must be signed in to view the PPT!
  - http://schoolwires.henry.k12.ga.us/Domain/5496 OR

- Email anytime!
  - Danna.Seigle@henry.k12.ga.us (LGHS)