Doug Little's Math Class

Hello student/Parent/Guardian, I will make this as brief as possible. **Please keep this paper for reference.** My packet includes your assignment for the week along with directions and examples. Below I provided my information for questions you may have, and if you have access to the internet, or a phone with a data plan, I am also including some ways to receive additional instruction for the assignments each week. ****On a side note, I know many of my student's parents/guardians speak Spanish only. The "Remind" app mentioned below will translate English/Spanish. Also, email or text me in Spanish and I can translate the message into English and respond in Spanish.****

Doug Little - Resource Math Teacher (Algebra 1, Geometry, Math Models) - Mt. Pleasant High School

- Phone number - (903) 919-1066 (Call or text)
- Email - dlittle@mpisd.net

I need a reliable phone number and email address for contact, communication, and additional instruction. Please contact me using the above information as soon as you have finished reviewing the packet. **I will make contact once a day by email, text, Remind, or phone, Monday through Friday.** Once again, this is essential for communication during this unique learning experience. I need to know if you have reliable internet or data at your house.

Resources for those with internet access or data:

- Remind App - Some may already have it, I will email out instructions on how to sign up to follow my class.
- Instagram - Username is *littlemathmphs* I will post instruction videos and answer questions through the comments
- Twitter - Username is *@littlemathmphs* I can communicate and answer questions here as well.
- Ascend Math - Students have access to ascend and can use this as an additional resource. Contact me for applicable assignments for additional assistance, practice, and instruction for most math subjects.
- Class Website - *sites.google.com/view/littles-class* We may use this later.

Resources through phone apps not requiring internet:

- Calculate84 - An app for the TI84 calculator we use in class. Skip the Sign In
- Mental Math Cards Challenge - Practice basic math calculation, keep the mind sharp
- Math Learner: Learning Games - More practice

Feel free to ask any questions.

Thank you, Doug Little

Doug Little's Math Class

Hola estudiante / Padre / Tutor, haré esto lo más breve posible. **Guarde este documento como referencia.** Mipaquete incluye su tarea para la semana junto con instrucciones y ejemplos. A continuación proporcioné mi información para las preguntas que pueda tener, y si tiene acceso a Internet o un teléfono con un plan de datos, también incluyo algunas formas de recibir instrucciones adicionales para las tareas cada semana. **** **En una nota al margen, sé que muchos de los padres / tutores de mi estudiante hablan español solamente. La aplicación "Recordar" que se menciona a continuación traducirá inglés / español. Además, envíeme un correo electrónico o envíeme un mensaje de texto en español y puedo traducir el mensaje al inglés y responder en español.** ****

Doug Little - Maestro de matemáticas de recursos (Álgebra 1, Geometría, Modelos matemáticos) - Mt. Pleasant High School

- Número de teléfono: (903) 919-1066 (llamada otexto)
- mensaje deCorreo electrónico: dlittle@mpisd.net

Necesito un número de teléfono confiable y una dirección de correo electrónico para contacto, comunicación e instrucciones adicionales. Comuníquese conmigo utilizando la información anterior tan pronto como haya terminado de revisar el paquete. **Me pondré en contacto una vez al día por correo electrónico, mensaje de texto, recordatorio o teléfono, de lunes a viernes.** Una vez más, esto es esencial para la comunicación durante esta experiencia de aprendizaje única. Necesito saber si tienes internet confiable o datos en tu casa.

Recursos para las personas con acceso a Internet o datos:

- Recordar la aplicación : es posible que algunos ya la tengan, enviaré instrucciones por correo electrónico sobre cómo inscribirse para seguir a mi clase.
- Instagram : el nombre de usuario es *littlemathmphs* Publicaré videos de instrucciones y responderé preguntas a través de los comentarios
- Twitter : el nombre de usuario es *@littlemathmphs* También puedo comunicarme y responder preguntas aquí.
- Ascend Math : los estudiantes tienen acceso para ascender y pueden usar esto como un recurso adicional. Comuníquese conmigo para las tareas correspondientes para asistencia adicional, práctica e instrucción para la mayoría de las asignaturas de matemáticas.
- Sitio web de la clase : *sites.google.com/view/littles-class* Podemos usar esto más adelante.

Recursos a través de aplicaciones telefónicas que no requieren Internet:

- Calculate84: una aplicación para la calculadora TI84 que usamos en clase. Omita elIniciar sesión en
- desafíoMental Math Cards: practique el cálculo matemático básico, mantenga la mente aguda
- Aprendiz de matemáticas: juegos de aprendizaje: más práctica

Siéntase libre de hacer cualquier pregunta.

Gracias, Doug Little

1] -3 – 6 **2]** 10 – (-4) **3]** 7 – (-2) **4]** -4 – 8 **5]** -8 – (-4) **6]** 3 – 2 **7]** -7 – 4

8] 2 – (-9) **9]** 6 – (-6) **10]** -11 – 2 **11]** 3 – (-5) **12]** -1 – (-7) **13]** -3 – 3

14] 9 – (-5) **15]** -2 – 8 **16]** -5 – (-7) **17]** 2 – 8 **18]** -10 – 2 **19]** 3 – (-9) **20]** 6 – 5

Notes:

-(-) = + -(+) or +(-) = -

When you combine:

+ and + **add and the answer is +**

- and - **add and the answer is -**

- and + **subtract and the answer is the sign of the larger**
+ and - **number**

Examples:

	$-4-(-8)$		$9+(-16)$		$-16+(-11)$
#1	$-4+8$	**#1**	$9-16$	**#1**	$-16-11$
#2	4	**#2**	-7	#2	-27

To our Algebra I students,

Due to the circumstances that we are facing, we will be providing you with some assignments on a weekly basis. If you have any questions or concerns with your assignments you can contact your teacher through remind or via email.

Ms. Deciga/Mrs. Floyd
adecigasanchez@mpisd.net jfloyd@mpisd.net
Remind code @msdeciga

Mr. Gonzalez
rgonzalezvidal@mpisd.net
Remind code @algebragon

Mrs. Orona
rorona@mpisd@mpisd.net
Remind code @orona1920

Ms. Ramirez
nramirez@mpisd.net
Remind code @msnramir

exponential decay (Decrease)

equation: initial value (y-int)

$y = \underline{a} \cdot b^{(x)}$ → exponent

a = growth rate

real-world example:

A car was purchased for $18,000. The car depreciates by 20% each year. Write an exponential function to model this scenario.

$y = ab^x$

$y = 18{,}000(.80)^x$

$20\% = .2$

$b = 1 - .2 = .80$

$a = 18{,}000$

table:

Write a rule for the function.

x	-2	-1	0	1	2
y	81	27	9	3	1

y-int.

$\times \frac{1}{3}$ $\times \frac{1}{3}$ $\times \frac{1}{3}$ $\times \frac{1}{3}$

$y = ab^x$ ($\frac{1}{3}$)

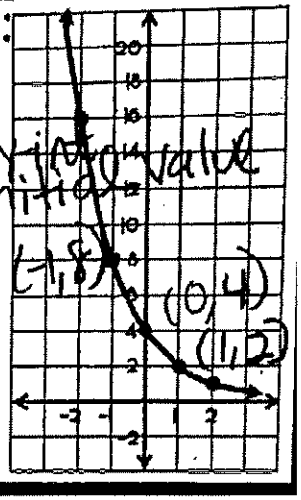
$y = 9(\frac{1}{3})^x$

initial value

growth rate (Decay)

graph:

Write a rule for the function.



$y = ab^x$ $a = 4$ ← y-int / initial value

$y = 4(\frac{1}{2})^x$ $b = \frac{1}{2}$

initial value y-int.

growth rate (Decay)

Algebra I Notes

exponential growth

equation: initial value (y-int)

$y = \underline{a} \cdot b^{(x)}$ → exponent (time)

a = growth factor

real-world example:

You deposit $4500 in an account that pays 5% interest compounded annually. Write an exponential function to model this scenario.

a = initial value $4{,}500$

b = growth factor $5\% = .05$ ($\%$ / 100)

$1 + .05 = 1.05 = b$

$y = ab^x$

$y = 4500(1.05)^x$

table:

Write a rule for the function.

x	-2	-1	0	1	2
y	1/8	1/2	2	8	32

y-int.

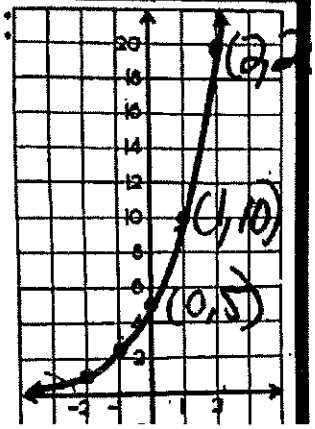
$\times 4$ $\times 4$ $\times 4$ $\times 4$

a = initial value / y-int 2

$y = ab^x$

graph:

Write a rule for the function.



a = initial value

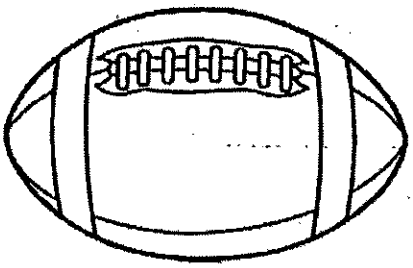
y-int: 5

b = growth factor

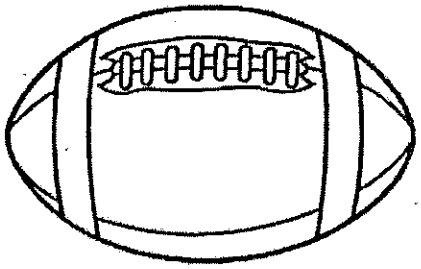
$y = ab^x$

$y = 5(2)^x$

Algebra I



Go Tigers!



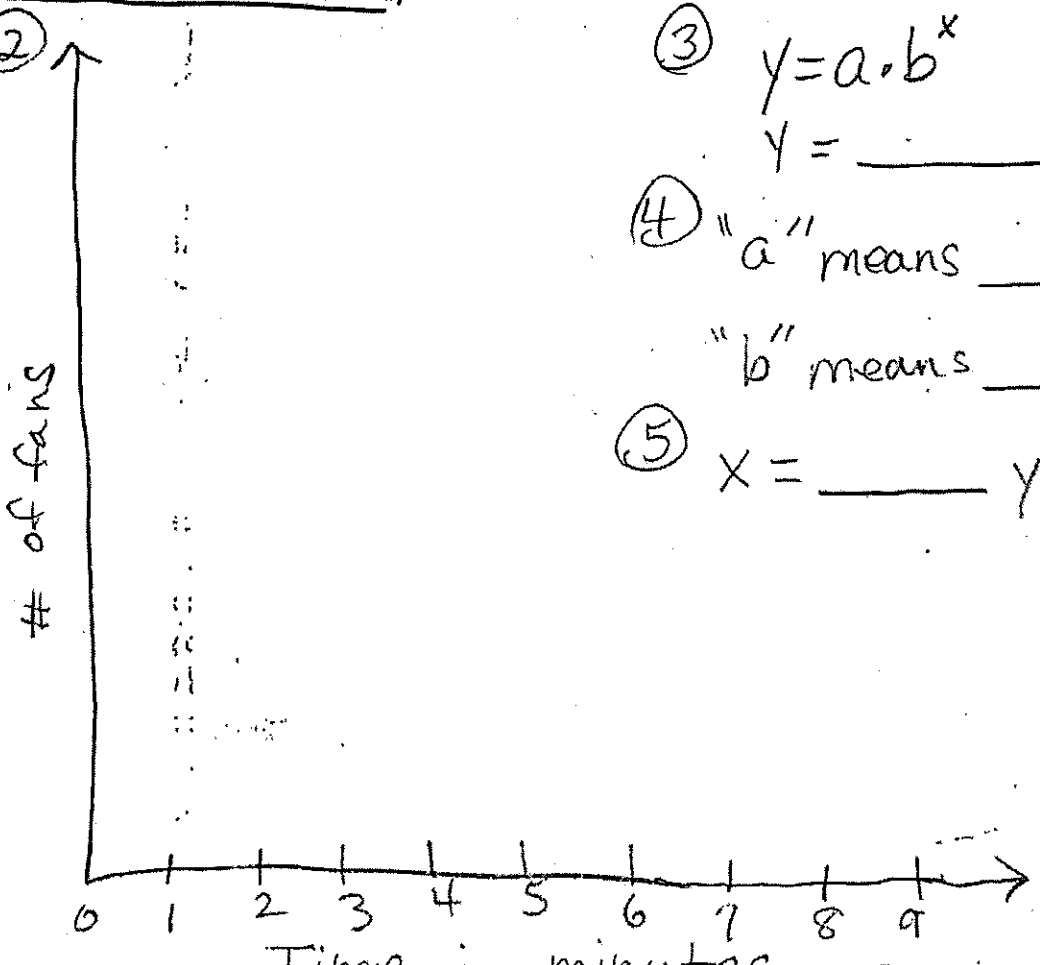
Seven days a year, Tiger Stadium becomes the fifth largest city in the state of Louisiana. Over 92,000 fans pack the stadium to watch the Tigers play. After the game, if the fans leave at a rate of 10 % per minute, how long will it take before the stadium is half empty?

1. Collect data using at least 10 numbers in the x column.(draw a representation)
2. Create a scatter plot. Label the graph and show increments.
3. Write an exponential equation.
4. Interpret the meaning of the "a" and "b" in your function $y = ab^x$ including the units.
5. Find out how long it will take before the stadium is half empty and all the way empty.
6. Present your information in a creative way

1.

X	Y
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

2.



3. $y = a \cdot b^x$

$y =$ _____

4. "a" means _____

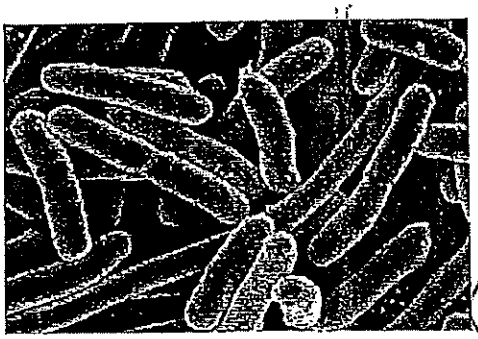
"b" means _____

5. $x =$ _____ $y = 46{,}00$

Algebra I

Bacteria – Some Good, Some Bad!

Bacteria are tiny one-celled creatures. Bacteria are vital to life but some bacteria cause sickness. Bacteria can multiply very quickly in the right conditions. If we assume that bacteria can quadruple every hour and if we start with just a single bacterium, then after one day how many bacteria will there be?



Picture from: pixabay.com

24 hours

You must download one of these calculators.

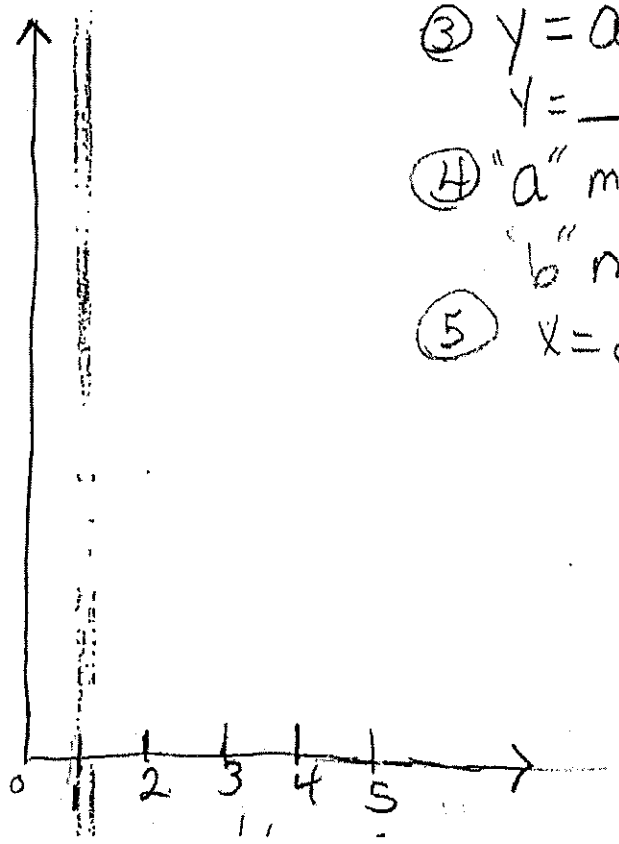
- Iphone – Calculator X 84
  *The free version will work for this assignment
- Android – Wabbitemu - TI-84 plus
  *This is a free app.

1. Collect data using at least 10 numbers in the x column. ~~(draw a representation)~~
2. Create a scatter plot. Label the graph and show increments.
3. Write an exponential equation.
4. Interpret the meaning of the "a" and "b" in your function $y = ab^x$ including the units.
5. Find out how many bacteria there will be in 24 hours.
6. Present your information in a creative way

①

x	y
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

②



③ $y = a \cdot b^x$

$y =$ _____

④ "a" means _____

"b" means _____

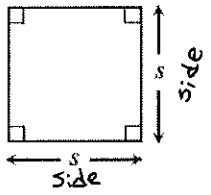
⑤ $x = 24$ $y =$ _____

ohernandez@mpisd.net
hcampbell@mpisd.net
dwoods@mpisd.net
crussel@mpisd.net

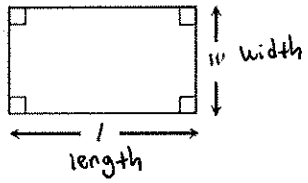
Name _____

Area of Quadrilaterals

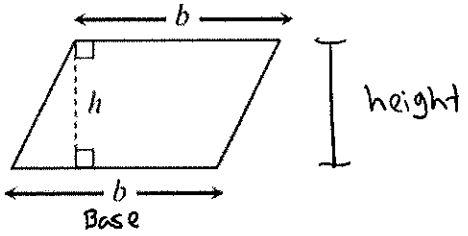
Square



Rectangle



Rhombus



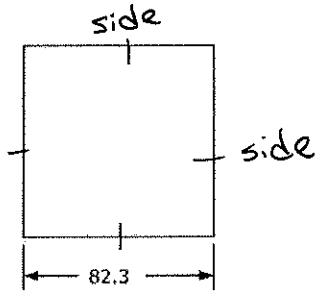
Area = side × side

Area = length × width

Area = base × height

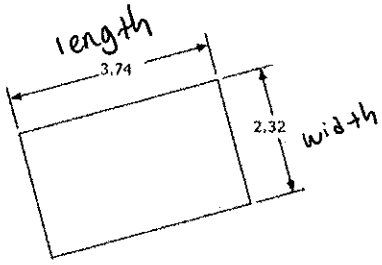
Examples:

The area of square can be found by multiplying the side times itself.



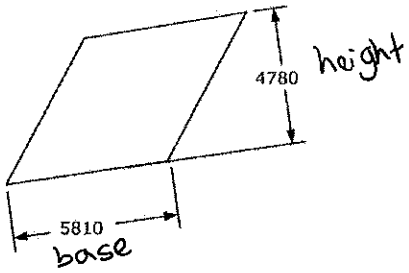
Area = side × side
Area = 82.3 × 82.3
Area = **6773.29**

The area of a rectangle is the product of its length and width.



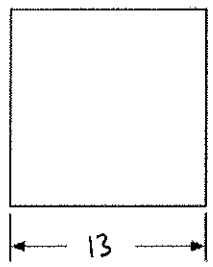
Area = length × width
Area = 3.74 × 2.32
Area = **8.68**

The area of a rhombus is the product of a base and its corresponding height.

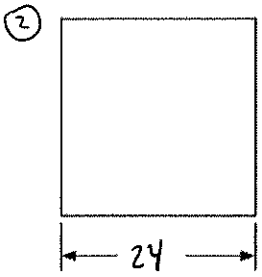


Area = base × height
Area = 5810 × 4780
Area = **27771800**

Directions: Calculate the area of the square given its side length.

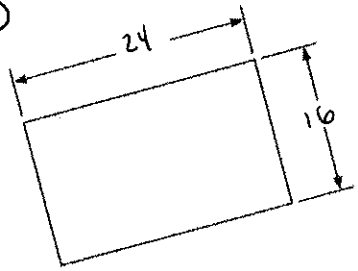
1. 

Area = _____

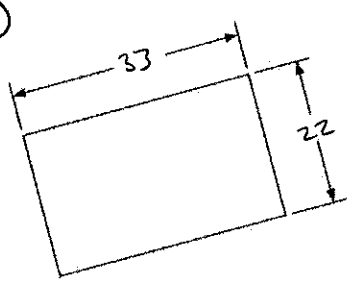
2. 

Area = _____

Directions: Calculate the area of the rectangle given its length and width.

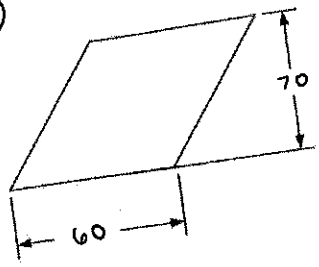
3. 

Area = _____

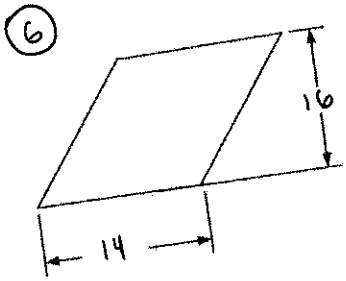
4. 

Area = _____

Directions: Calculate the area of a rhombus given its base and height.

5. 

Area = _____

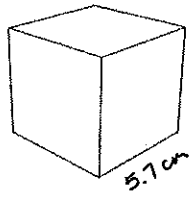
6. 

Area = _____

7. The average living room dimensions in the US is 16 by 16 feet. Natural timber ash tile at Lowe's cost $3.49 per square foot. What will be the total cost to cover the living room floor with natural timber ash tiles?

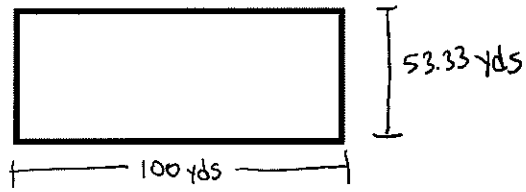
$.

8. A standard Rubik's Cube measures 5.7 centimeters on each side. What is the total surface area of the Rubik's cube? (A cube has 6 congruent squares)



Total Surface Area = _____ cm^2

9. The length of the football field (without the end zone) is 100 yds and the width of the field is 53.33 yards. Calculate the area of the football field.



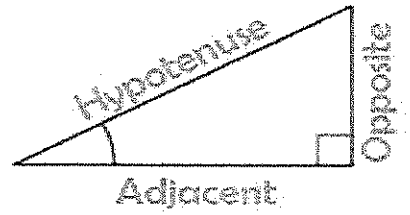
Area = _____ yd^2

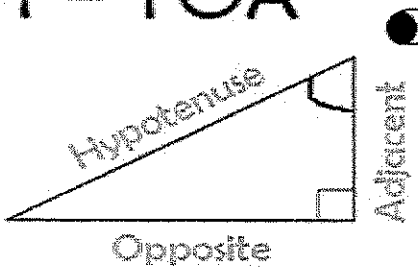
dwoods@mpisd.net
cmorris@mpisd.net

MATH MODELS

Looking from here

SOH – CAH – TOA



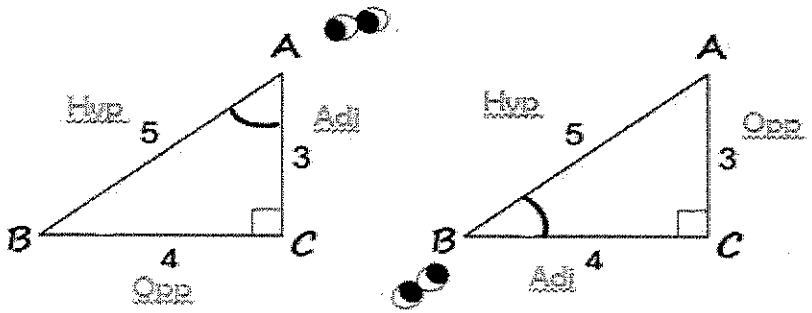


Looking from here

$$\text{Sin} = \frac{\text{Opposite}}{\text{Hypotenuse}} \quad \text{Cos} = \frac{\text{Adjacent}}{\text{Hypotenuse}} \quad \text{Tan} = \frac{\text{Opposite}}{\text{Adjacent}}$$

Opposite – side across from the angle you are trying to find
Adjacent – side next to the angle you are trying to find
Hypotenuse – longest side – across from the 90 degree angle

Example: Find the measures of angles A and B.



	Angle A	Angle B
Sin	4/5	3/5
Cos	3/5	4/5
Tan	4/3	3/4
	53.1°	36.9°

1. Label the sides
2. Set up the fractions
3. Put fractions in calculator – (your phone should have a compatible calculator)
4. Push 2nd, then either sin, cos, or tan, then the fraction

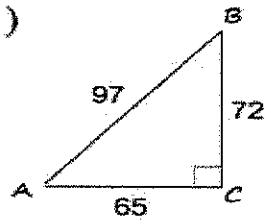
When finding an ANGLE, push 2nd BEFORE you type sin, cos, or tan in your calculator

Finding Angles with Trig Functions

Name: _____

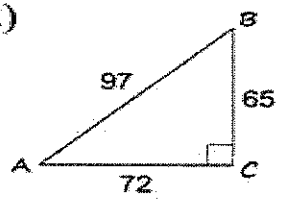
Find the measure of angle A and angle B in each right triangle using Sin, Cos, and Tan.

1)



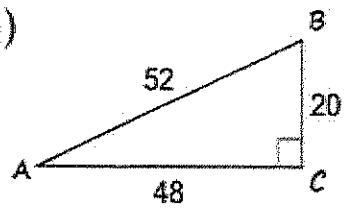
	Angle A	Angle B
Sin		
Cos		
Tan		
	°	°

2)



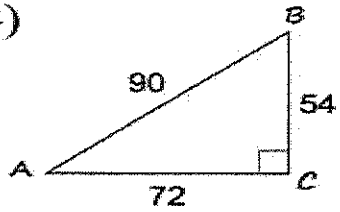
	Angle A	Angle B
Sin		
Cos		
Tan		
	°	°

3)



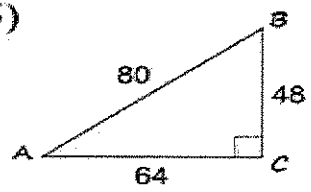
	Angle A	Angle B
Sin		
Cos		
Tan		
	°	°

4)



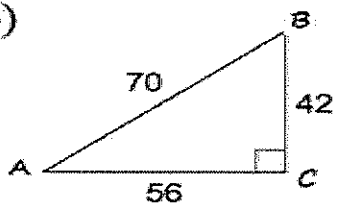
	Angle A	Angle B
Sin		
Cos		
Tan		
	°	°

5)



	Angle A	Angle B
Sin		
Cos		
Tan		
	°	°

6)



	Angle A	Angle B
Sin		
Cos		
Tan		
	°	°

Wbarkley@mpisd.net

Name_____Period_____

AQR Wednesday, March 25, 2020

Analyzing Numerical Data: Estimating Large Numbers Assignment

Answer the following questions after researching this information online. Cite your sources!!

1. Who was Enrico Fermi?

2. What is a Fermi question?

Consider the following Fermi Question:
Can every person in the world fit inside a cubic mile?

What questions do you need to have answered before you can solve the problem? In other words, what do you need to know to sufficiently answer this question? (We will call these clarifying questions.) Make an extensive list of your questions here.

Fermi Tennis Ball Project

Situation: **Determine the number of tennis balls needed to fill your living room.**

Clarifying questions: **A clarifying question is any question that needs to be answered before you can solve the problem. What do you need to know to solve the problem? List your clarifying questions below.**

Assumptions: Based on your clarifying questions, what assumptions do you need to make? In other words, what are some things you could assume to make the problem easier to solve?

Research: What will you need to research to solve the problem? Will this research be primary or secondary?

Calculations: Show all work and processes used to formulate your estimate of how many tennis balls will fit in your living room. Remember a proportion may come in handy for your estimation. Draw a box around your final answer.

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Quadratic Formula = $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$; for $ax^2+bx+c=0$

Complete #s 1, 3, 5, 7, 15

Solve each equation by using the Quadratic Formula.

1. $3x^2 + 12x - 9 = 0$
2. $x^2 + 8x + 5 = 0$
3. $4x^2 - 5x - 2 = 0$
4. $9x^2 + 6x - 4 = 0$
5. $10x^2 - 3 = 13x$
6. $22x = 12x^2 + 6$
7. $-3x^2 + 4x = -8$
8. $x^2 + 3 = -6x + 8$

Algebra 2 & Pre-Cal.

Solve each equation by using the Quadratic Formula.

14. $x^2 + 45x = -200$
15. $4x^2 - 6 = -12x$
16. $3x^2 - 4x - 8 = -6$
17. $4x^2 - 9 = -7x - 4$
18. $5x^2 - 9 = 11x$
19. $12x^2 + 9x - 2 = -17$

Examples

2) $x^2 + 8x + 5 = 0$

$a = 1,\ b = 8,\ c = 5$

$$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$$

$$x = \frac{-8 \pm \sqrt{8^2-4(1)(5)}}{2(1)}$$

$$x = \frac{-8 \pm \sqrt{44}}{2}$$

$$x = \frac{-8 \pm \sqrt{4 \cdot 11}}{2}$$

$$x = \frac{-8 \pm 2\sqrt{11}}{2} \Rightarrow \text{reduced} \quad \boxed{x = \frac{-4 \pm \sqrt{11}}{1}}$$

6) $22x = 12x^2 + 6$

$-22x \qquad -22x$

$$\frac{0}{2} = \frac{12x^2}{2} - \frac{22x}{2} + \frac{6}{2}$$

$0 = 6x^2 - 11x + 3$

$a = 6 \quad b = -11 \quad c = 3$

$$x = \frac{11 \pm \sqrt{(-11)^2-4(6)(3)}}{2(6)}$$

$$x = \frac{11 \pm \sqrt{49}}{12}$$

$$x = \frac{11 \pm 7}{12}$$

$$x = \frac{11+7}{12} \qquad x = \frac{11-7}{12}$$

$$x = \frac{18}{12} \qquad x = \frac{4}{12}$$

$$\boxed{x = \frac{3}{2}} \qquad \boxed{x = \frac{1}{3}}$$

Algebra II Dual Credit Mrs. Russell

Info to begin Online Instruction

How to Get Started

Hi guys! I know this is going to be a bit strange to "learn" at home, but I know you can do this. I'm going to try to make it as understandable as I can, but you are going to have to do your part and work hard.☺ Please remember that this is a dual credit class, so not only do we have to meet the high school requirements, we also have to meet the college requirements.

Instruction and assignments will be delivered through the online math product called MyMathLab. This product will allow me to give you videos to watch as well as tutorials and examples for the homework problems. Below will give you instructions on how you need to begin. I suggest you print these out so that you have them to look at while you are getting everything set up.

1. You will need to access MyMathLab through your Blackboard class at the NTCC website. Go to www.ntcc.edu

2. When you get to the NTCC homepage, look at the very top of the screen and click on myEaglePortal.

3. Now login to your portal. Your login will be your NTCC email address. If you don't know what it is, it should be your 1st initial of your first name + last name + last three digits of your social security number. (Don't put + signs and be sure to use your real first name if you actually go by your middle name or something.) Your password is your birthdate in the form MMDDYYYY.

4. Now click on student on the top row of the screen.

5. Now look at the left side of the screen under Quicklinks. You will click on Blackboard.

6. When you get to Blackboard, you will need to scroll down and find our course. It will be titled Math 1314. Click on it.

7. Now you are in our course. You should see a homepage with my name on it and underneath that section, you will see a section title **How do I get started now that Dual Credit is online???**

8. Read and follow the instructions in that section to get your MyMathLab set up and running.

9. After you get your MyMathLab set up, you will need to come back to your blackboard daily (using the instructions above) to access your instruction and your assignments.

10. I can't emphasize enough how important it is for you to check your email (the one you put in MyMathLab) DAILY because that is how I will communicate with you. Please make it send notifications to your phone so that you will see my emails immediately.

Alg II Dual Page 2

Now that I have everything set up and ready to go, what do I do??

1. If you have exited out of MML, get back in it. (Go to www.ntcc.edu , login, click on student, click on blackboard, click on our course, then click on MyMathLab in the upper left side of the screen).

2. Click on My Lab and Mastering Home

3. You will see a calendar at the top of the page. This is where you can view what is due each week. If you click on the dots on the date, it will show you the exact assignments that are due for that day. (You cannot wait until that day to access the assignments. You must get started on those at the beginning of the week on Monday so that you have plenty of time to complete everything before the due date).

4. There will be Concept Mastery and Homework each week for the sections.
   - You need to complete the concept mastery assignments first because that is where you will find the video instructions. You may work on the problems an unlimited number of times to learn the material and get the correct answers. (So, you should get 100 on each concept mastery).
   - After completing the concept mastery assignments for the week, now go to the homework assignment. You have unlimited attempts to work each problem. You can view the tutorial material that goes with the problem such as "Help me work this" or "Show Me an Example". (Keep in mind, though, that these tools will not be available when we take the test over the material. These are learning tools for help when learning the material).
   - Using your "notes" that we took in class, be sure that you take good notes over each type of problem.
   - When you finish all assignments for the week, then you can wait until assignments are made available for the next week. I will send you an email reminder that they are ready.

If you haven't received any Remind messages from me yet, please set your Remind to give you notifications. If you aren't signed up for Remind, you need to contact me about that.

Changes may come for the following weeks. We are operating on a week to week basis right now.

I know that you can do a good job with this. Feel free to collaborate with your classmates, but continue with social distancing. So, just Facetime each other or something. You can also look up additional videos on youtube if needed. If you need me, you can send me a Remind message or an email from your MML homework problem.

Good luck! Have a great week!

Mrs. Russell

AP Statistics Mrs. Russell

Info for at Home Assignments

Week 1

Hi guys! I know this is going to be a bit strange to "learn" at home, but I know you can do this. I'm going to try to make it as understandable as I can, but you are going to have to do your part and work hard.☺ Just so you know, we still have 2 topics that have to be covered for the AP exam.

For week: I am emailing you a powerpoint for Comparing Two Distributions and one for Matched Pairs. This is just an extension of everything that we have been learning for the past 8-10 weeks. Be sure to follow all of the instructions on the powerpoint. I sent this info out on Remind. If you are not on Remind, please email me immediately so we can get you set up, but I'm pretty sure that I found everyone's name on the list.

The info below is a recap of what you will need to do.

1. Go through the Comparing Two Distributions powerpoint. You can still fill in information to the packet of notes that I gave you. Some of it is different, though, since we are adapting for home learning. Refer to the notes and powerpoint as often as necessary. Pay attention to all of the instructions that are included in it.

2. Work problem #4 on the Two Distribution Worksheet. You will be responsible for knowing how to do these types of problems.

3. Go through the Matched Pairs powerpoint. You can still fill in information to the packet of notes that I gave you. Some of it is different, though, since we are adapting for home learning. Refer to the notes and powerpoint as often as necessary. Pay attention to all of the instructions that are included in it.

4. Work problem #2 on the Matched Pairs worksheet as homework. You will be responsible for knowing how to do these types of problems.

This is how we are going to handle this first week. Changes may come for the following weeks. We are operating on a week to week basis right now until we get up and running with this.

I know that you can do a good job with this. Feel free to collaborate with your classmates, but continue with social distancing. So, just Facetime each other or something. If you need me, you can send me a Remind message or an email.

Good luck! Have a great week!

Mrs. Russell

Dual Credit Pre-Calculus

I am sorry that it has come to this, but we will make the best of it. Our class will be online now. You will be receiving a note through remind or an email letting you know how to get going. If you have questions, email me at sjenkins@mpisd.net

AP Calculus

I know this is a really strange way to do assignments, but we will make the best of it. Keep your chin up and work hard.

You will be receiving your assignments through REMIND. If yours is not working or you cannot see the assignments, email me at sjenkins@mpisd.net, and I will send an email.

This week you will be finishing the Integration by Parts Worksheet that you already have. I will send notes and a You Tube video for you to watch. You will also be receiving the next topic – Separation of Variables.

We lack 2 topics by finishing the material that is on the AP test. We will finish those 2 topics and do AP review material.