

Week of April 6-10, 2020

Ms. Myers

Hello everyone. Choose 2 of the following activities for the class you are enrolled in to complete for this week. All assignments may be turned in via google classroom. Take a picture or scan it in and turn it into the corresponding assignment. Or you may turn in paper copies to the office and they will get them to me. Both choices are due by Monday, April 13 at noon. Be sure to write whatever choice you are doing at the top of your page.

I will be at my computer for questions on Tuesday 10a-12p, Wednesday 3p-5p & Thursday 12p-2p.

Class	Choice 1	Choice 2	Choice 3	Choice 4	Choice 5
Algebra 2	Water Park Project Show all work!	Page 943 Lesson 1.3 #1-22 Show all work!	Page 26 Lesson 1.3 #10-21 even and 32-52 even Show all work!	Page 49 #12-40even Show all work!	Research a famous mathematician. Write a 1 page paper about him/her. Include history & why he/she is important to the math world.
Algebra 3/Trig	Complete the assignment that was assigned on Khan Academy.	Page 982 Lesson 13.1 #1-18 Show all work!	Page 966 Lesson 8.4 #1-18 Show all work!	Page 966 Lesson 8.3 #1-18 Show all work!	Research a famous mathematician. Write a 1 page paper about him/her. Include history & why he/she is important to the math world.
Geometry	Geometry Construction Project 1	Advanced order of Operations Wkst Show all work!	Page 818 Lessons 1.1 & 1.2 Show all work!	Page 75 #1-19 Show all work!	Research a famous mathematician. Write a 1 page paper about him/her. Include history & why he/she is important to the math world.
Tech Math	Solving Equations Wkst Show all work!	Titanic Wksts Show All Work!	Mean, Median, Mode, Range Show all work!	Duct Tape/Pencil Pouch Project	Research a famous mathematician. Write a 1 page paper about him/her. Include history & why he/she is important to the math world.

Week of April 6-10

Ms. Myers

Tech Math

Solving Equations Wkst

Name _____

1. Solve $H = \frac{62,4N5}{33,000}$ for N

6. $3(x + 3)4 - \frac{1}{2}(2x + 1) = 0.5$

2. Solve $ax + by + c = 0$ for y

7. $\frac{1}{2}(12n-2) = 5n-7$

3. Solve $A = \frac{1}{2}bh$ for b

8. $\frac{1}{6}x = \frac{3x+5}{4} + \frac{1}{3}(x-1)$

4. $C = \frac{5}{9}(F - 32)$, for F

9. $7(x + 5) - 3(2x + 3) = 33.8$

5. Solve $D = \frac{11}{5}(P - 15)$ for P

10. $2x + 3(x - 4) = 4(2x + 3)$



Titanic: The Ship

The Ship: The Numbers

\$7,500,000	The Cost	4	The Number of Funnels
269 meters	The Length	3	The Functional Funnels
1912	The Year of the Voyage	2	The Number of Anchors
1985	The Year it was found	15 tons	The weight of the Anchors
840	The Number of Rooms	29	The Number of Boilers
9	The Number of Decks	3	The Build Time, in Years
23 knots	The Top Speed	3,000	People who built the ship

Use the information above to help answer the questions.

- How many years passed between the sinking of the ship and the year it was found? _____
- Each of the workers who built the ship was paid about \$4 per week. How much did The White Star Line, who built the ship, pay ALL the people who worked on it each week? _____
- What year did they begin building the Titanic? _____
- If the ship was at full capacity, and 5 people could be in each room at one time, how many people might be in all of the rooms at once (Note: This number will be more than the TRUE capacity)? _____
- The ship was 53 meters high. What was the difference between the height and the length? _____
- A football field is 360 feet long. The Titanic was 888 feet. About how many football fields long was the Titanic? _____
- If the rooms were evenly split among the decks (which they were NOT), how many would be on each floor? _____
- Write one more question that could be answered using the data above.



Titanic: The Supplies

The Supplies: The Numbers

11,000 Pounds	Water Used Daily	10,000	The Number of Light bulbs
75,000 Pounds	Fresh Meat on Board	41,000	The Pieces of Silverware
40 tons	The Potatoes	1,000	The Loaves of Bread
250 Barrels	The Flour	36,000	The Apples
10,000 Pounds	The Sugar	21,000	The Cups & Glasses
40,000	The Eggs	1,500 Gallons	The Milk
6,000 Pounds	The Butter	1,200	The Quarts of Ice Cream

Use the information above to help answer the questions.

The Titanic was scheduled to arrive on April 17 after leaving on April 10. About how many pounds of meat did they have per day of the voyage? _____

The Titanic had about half as many plates as they did pieces of silverware. About how many plates did they have? _____

There are approximately 3,000 potatoes in a ton. About how many potatoes were on board the Titanic? _____

If all of the loaves of bread were cut into 12 pieces, how many pieces of bread would there be? _____

The ice cream was served as dessert on the ship. Each person got half a pint of ice cream. How many half pints did they have on board? _____

A barrel of flour has about 200 pounds of flour in it. How many pounds of flour did the Titanic have on board? _____

List three different things water may have been used for, OTHER than for drinking. _____

Write one more question that could be answered using the data above.



Titanic: The People

The People: The Numbers

2 Months	Age of Youngest on Board	107	The Children On Board
1,324	The Passengers on Board	869	The Men (Passengers)
2,223	The People on Board	447	The Women (Passengers)
3,547	The Capacity	\$4,350	Cost of 1st Class Suite (1912)
324	The First Class	\$60	Cost of 2nd Class (1912)
284	The Second Class	\$40	Cost of 3rd Class (1912)
709	The Third Class	\$100 million	Worth of the richest man on board

Use the information above to help answer the questions.

- The cost of the tickets would be about 9 times the amount if they were sold today. What would the cost of each ticket be today?
 1st Class _____ 2nd Class _____ 3rd Class _____
- What was the difference in capacity and the total number of people on board? _____
- How many workers (NOT passengers) were there on board? _____
- How much money did the ship make off of all of the third class tickets? _____
- There were 74 children in 3rd class. How many children were in 1st and 2nd class combined? _____
- Only 178 third class passengers survived the sinking. How many were lost in the disaster? _____
- About how many days old was the youngest passenger on board the Titanic (she survived)? _____
- Write one more question that could be answered using the data above.



Titanic: The People

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709	The Third Class	\$100 million	Worth of the richest man on board

Use the information above to help answer the questions.

- The cost of the tickets would be about 9 times the amount if they were sold today. What would the cost of each ticket be today?
1st Class _____ 2nd Class _____ 3rd Class _____
- What was the difference in capacity and the total number of people on board? _____
- How many workers (NOT passengers) were there on board? _____
- How much money did the ship make off of all of the third class tickets? _____
- There were 79 children in 3rd class. How many children were in 1st and 2nd class combined? _____
- Only 178 third class passengers survived the sinking. How many were lost in the disaster? _____
- About how many days old was the youngest passenger on board the Titanic (she survived!)? _____
- Write one more question that could be answered using the data above.

MEAN, Median, Mode, Range

Fill in the blank with the word that makes the sentence true and complete.

The _____ of a set of numbers can be found by finding the sum of all the numbers, then _____ the sum by the total amount of numbers in the data set.

The _____ of a set of numbers is the middle number in a data set. If there is an even amount of numbers in the data set, you must find the _____ of the two middle numbers.

You subtract the min from the max to find the _____.

The number that occurs most often in a data set is called the _____.

Explain the importance of putting your data set in order from least to greatest.

Label each of the following as True (T) or False (F).

Write an explanation or "proof" underneath.

_____ There can be more than one mean.

_____ There can be more than one mode.

Mean, Median, Mode, Range

Katie got the following scores on her spelling tests.

Week 1	98
Week 2	89
Week 3	76
Week 4	93
Week 5	89

Mean: _____

Median: _____

Mode: _____

Range: _____

create a data table with a set of fictional data of your choice. then, use your data to find the mean, median, mode, and range of the data.

Mean: _____

Median: _____

Mode: _____

Range: _____

Grace was improving her typing speed and kept track of how many words per minute she could type each week.

Week 1	36
Week 2	48
Week 3	67
Week 4	91

Mean: _____

Median: _____





Mode: _____

Range: _____

Mean, Median, Mode, Range

At The Grocery Store

Cathy the Extreme Couponer is looking at several different store ads. She makes the table below to show the prices on the same food at different stores. Help her find the Mean, Median, Mode, and Range of the price of the foods at all three stores.

	Bread 	Milk 	Eggs 	Cereal 
Store A	\$1.99	\$2.99	\$3.99	\$3.89
Store B	\$3.29	\$2.59	\$4.29	\$2.50
Store C	\$2.45	\$3.50	\$2.89	\$2.99

Comparing Foods

1. What is the average price of a loaf of bread at the three stores?
2. What is the range of prices for a carton of eggs at the three stores?
3. What is the median price of cereal at all three stores?
4. What is the average price of milk at the three stores?

Comparing Stores

1. What is the median price of the food at Store A?
2. What is the average price of the food at Store B?
3. What is the range of prices of the food at Store C?
4. What is the average price of the food at Store A?

Mean, Median, Mode, Range

DATA PARTY EXTENSION ACTIVITY

SOPHIA HAD A DATA COLLECTION PARTY AT HER HOUSE.

THE PARTYGOERS COLLECTED DATA TO ANSWER THE FOLLOWING QUESTIONS:

"How many licks to the center of a Tootsie Pop?"

"How many jumps of a jump rope in one minute?"

"How many minutes to run a mile?"

"How many seconds can you hold a hoop?"

"How many slices of pizza are eaten by each person?"

CREATE A REASONABLE SET OF DATA FOR ONE OF THESE ACTIVITIES. THEN FIND THE MEAN, MEDIAN, RANGE, AND MODE OF YOUR DATA.

CREATE A GRAPH TO DISPLAY YOUR DATA

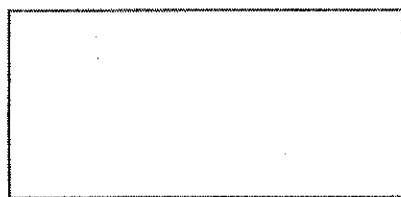
Must have a minimum of 15 data points for this activity.

Duct Tape / Pencil Pouch Project

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Choice 4

1. Your company will create a duct tape pencil pouch using duct tape and a gallon plastic bag. Your bag will have the following dimensions:

$10 \frac{9}{16}$ inches



6 inches

Find the area of your bag:

You will be covering both sides of the bag with tape, so what surface area will your bag have?

2. During trial production, you notice some wasted duct tape so you plan for waste during production (overlapped tape, destroyed tape, etc.). Estimates for waste in trial production are 15% of the total surface area per pencil pouch.

Write 15% as a decimal. _____

Find 15% of the total surface area. This is your wasted duct tape per pencil pouch.

3. Find the total surface area you will cover with duct tape (including predicted waste) per pencil pouch.

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4. If you unroll a roll of duct tape it would be 15 yards x 1.88 inches. There are 3 feet in every yard, and 12 inches in every foot.

a. Convert 15 yards into feet.

b. Next convert the answer from above into inches.

c. Now find the area that the roll of duct tape will cover in square inches.

5. A roll of duct tape costs \$5.29 including tax. What is the cost per square inch? **Round to the nearest tenth of a cent.**

6. Using the total surface area of your bag (Step 3) and the cost of duct tape per square inch (Step 5) find the cost to cover your entire bag in duct tape. **Round to the nearest cent.**

7. Regular bags are sold in a box with 38 bags for \$5.09 per box. Slider bags are sold in a box of 30 for \$5.29 per bag. For each type of bag, what is the price per bag? **Round to the nearest cent.**

8. An employee can make 6 pencil pouches in an hour. Your company pays a minimum wage of \$7.25 per hour. What is the average amount the employee earns per pencil pouch? **Round to nearest cent.**

9. Decide which type of bag to produce. _____
What is the total cost to produce 1 pencil pouch (materials and labor)?

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10. The finance manager insists that the company needs to sell the pencil pouches for 85% more than they cost to produce to be profitable. Find 85% of the total cost. **Round to nearest cent.**

11. What is the total price that your company will sell the pencil pouches to retailers for to ensure that you earn an 85% profit on the pencil pouches?

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12. Retailers selling your pencil pouches need to make a profit as well. To assist retailers in pricing please calculate three suggested retail prices including 35%, 45%, and 50% profit.

13. Reflections: Reflect on how this activity relates to real business practices. What other factors not included in this activity might a business consider when making and pricing their goods for sale to retailers?

Suggested Materials:

- Print pages 1-4 in landscape mode, double side, flip on short edge. (These settings work on my HP LaserJet, you may need to adjust). Fold book in half and staple. Print one per student or group.
- Gallon size plastic storage bags (regular seal and slider seal). Enough for one per student.
- Variety of duct tape (patterns and solid colors)
- Rulers
- Painters tape
- Calculators to check work
- Copy of answer key for teacher or for student self-check
- Scissors
- Heavy duty 3-hole punch

Prerequisite Skills and Knowledge:

Based on working without a calculator this is a list of knowledge and skills students should have before working on this activity.

- Know Area formula for rectangle $\text{Area} = \text{Length} \times \text{Width}$
- Converting numbers: fraction/decimal/percent, mixed number/improper fraction
- Rounding to nearest cent, tenth of a cent

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- Find the % of a number
- Unit conversions given conversion factors
- Unit rate/price
- Decimal operation fluency (addition, multiplication, division)

Project timeline:

Depending on skill level of students, without a calculator, this project generally takes students 2 or 3 class periods (50 minutes) to complete.

Lesson Suggestions:

- Begin the project by discussing the startup of a fictitious student business that makes and sells pencil pouches made of duct tape. Invite students to guess how much it would cost to make and how much they should sell for in retail stores. Post guesses in classroom.
- Next I place students into pairs and have them come up with a name for their company and decorate the front cover with their business name and/or logo. I also give small pieces of duct tape if they want to include on cover to get them interested.
- Students complete the word problems practicing skills in computation, area, and percent word problems. I have students compute without a calculator and check with calculator or answer key at each step (to ensure accuracy as many steps build upon previous answers), but those are all teacher decisions. You

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may want to have students compute on scrap paper or on white boards and transfer to booklet when correct.

-Once a pair of students complete all questions correctly I give them a printed sheet with directions to make the pencil pouch (see "How to Make Duct Tape Pencil Pouch" in zip folder). I let students select the type of bag they calculated costs for in the activity. I allow each student to make one pouch.

-If time allows I have had students make extra pencil pouches to donate to our student service center for students needing school supplies.

-If allowed at your school, offer students extra credit or free time to bring in supplies (bags, a roll of duct tape, etc.).

-I allow students one solid color and one pattern when constructing their pouches. No more than $\frac{1}{2}$ the area can be patterned as it is more expensive.

-I have better luck ripping the duct tape than cutting. Scissors get all sticky by end of day. You may need to demonstrate this skill to students.