

OAKLAND CUSD #5

**TECH MATH**  
**APRIL 13-17, 2020**

EMILY MYERS

Week of April 13-17, 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 20 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. **NO WORK = NO CREDIT**

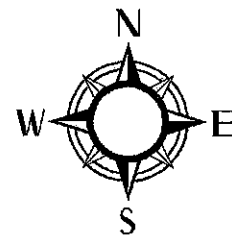
Class	Choice 1	Choice 2	Choice 3	Choice 4	Choice 5
<b>Algebra 2</b>	Fencing the yard Project	Page 945 Lesson 1.8 even	Page 946 Lesson 2.2 all	Page 947 Lesson 2.4 all	Make a roller coaster for a marble out of only cardboard and tape. The marble must run for 30 secs exactly from start to finish. Record the run and turn it in.
<b>Algebra 3/Trig</b>	Khan Academy - *Graphs of $\sin(x)$ , $\cos(x)$ , and $\tan(x)$ *Amplitude, Midline, and Period	Page 984 Lesson 13.4 #1-24	Page 957 Lesson 5.6 #1-38 even	Page 956 Lesson 5.4 #1-30 even	Make a roller coaster for a marble out of only cardboard and tape. The marble must run for 30 secs exactly from start to finish. Record the run and turn it in.
<b>Geometry</b>	Fencing the yard Project	Page 824-825 Lessons 3.2-3.3	Page 822-823 Lessons 2.3-2.5	Page 133 #1-18	Make a roller coaster for a marble out of only cardboard and tape. The marble must run for 30 secs exactly from start to finish. Record the run and turn it in.
<b>Tech Math</b>	Fencing the yard Project	Water Park Project	Order of Operations Wkst	Dots 1 Wkst	Make a roller coaster for a marble out of only cardboard and tape. The marble must run for 30 secs exactly from start to finish. Record the run and turn it in.

Name: \_\_\_\_\_ Block: \_\_\_\_\_ Date: \_\_\_\_\_  
Project Fencing Your Property

You want to put a fence around your large yard. There are two companies that you have found to do the work. They have each given you a quote for how much the work will cost. Of course, you want to find out which company will be the cheapest.

The boundary of your yard is determined by five trees. The lines connecting them form the edge of your property. Shown below are the descriptions for the positions of the trees relative to your house.

TREE	Position (relative to your house)
1	100 ft. east
2	40 ft east, 80 ft south
3	40 ft west, 120 ft south
4	90 ft west, 60 ft north
5	20 ft east, 110 ft north



STEP 1: On graph paper, mark the position of each of the trees on your land. Let each block of the graph paper represent a 10-foot by 10-foot square. Using a straightedge, connect Tree 1 to Tree 2, Tree 2 to Tree 3, Tree 3 to Tree 4, and so on.

STEP 2: Use the Pythagorean Theorem to find the length of each side of your property. Round each answer to the nearest hundredth, if necessary.

STEP 3: Determine the perimeter of your property by adding up all of the sides.

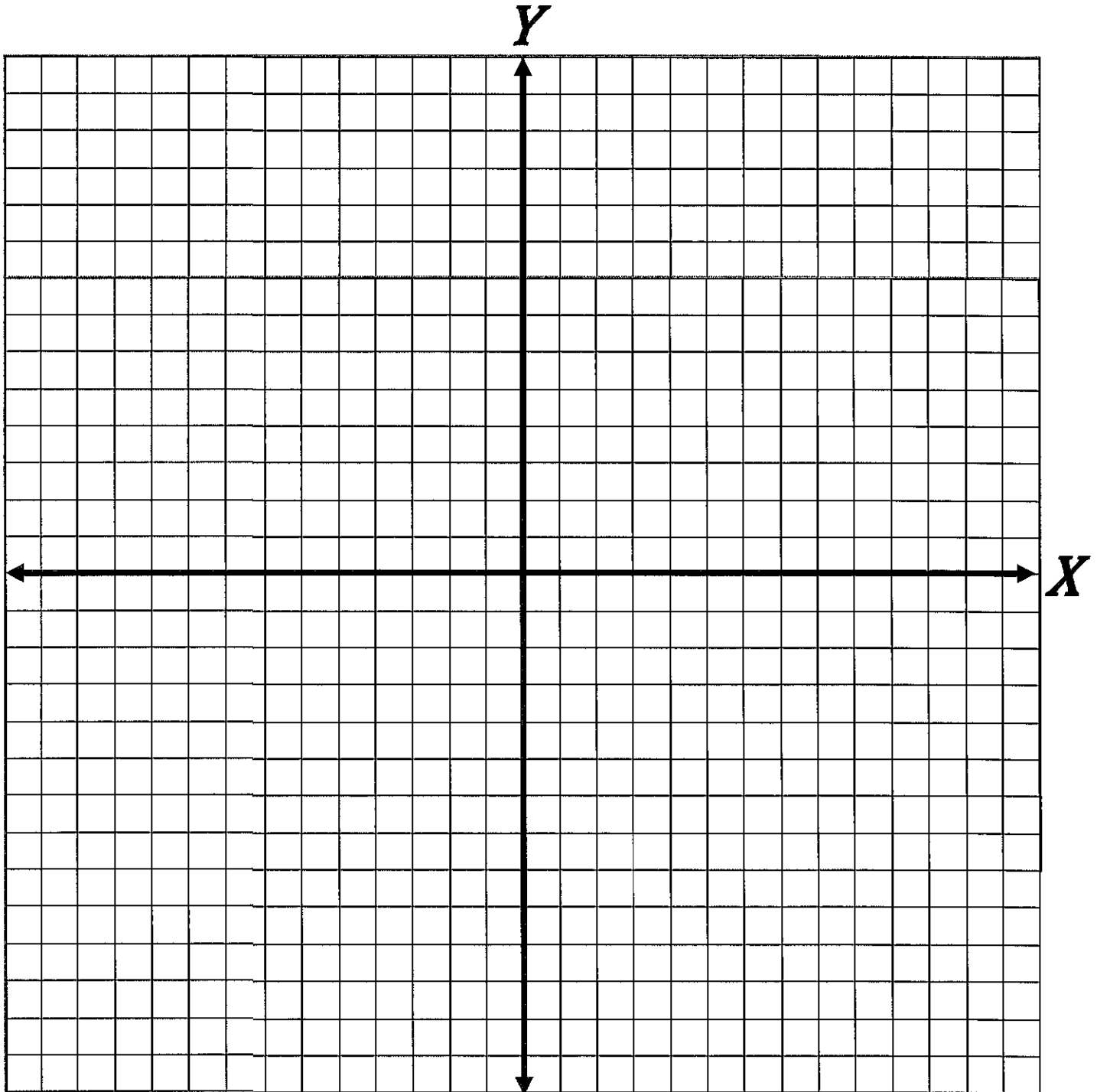
STEP 4: Company 1 says that they will complete the job for \$12 per foot of fencing. Company 2 says that they will charge you \$250 for the first 100 feet of fencing and \$15 for each additional foot. Determine the cost of fencing for both companies.

STEP 5: Figure out which company will complete the job for the least amount of money.

Name: \_\_\_\_\_ Block: \_\_\_\_\_ Date: \_\_\_\_\_

## Graph of Your Property Lines

Plot the points that represent the trees that mark the edges of your property. Use the locations given on the previous page. To make things easier, use the origin (0, 0) as the position of your house. Remember that each grid represents 10 feet. Finally, connect the points using a straightedge.



Name: \_\_\_\_\_ Block: \_\_\_\_\_ Date: \_\_\_\_\_

Break your property into smaller parts and use the Pythagorean Theorem to find the length of each side. Remember that each grid line on your graph represents 10 feet. Also remember to round to the nearest hundredth if necessary. Show your work below.

<p>Work for the distance from <b>Tree 1 to Tree 2</b></p>      <p style="text-align: right;">Distance: _____ ft</p>	<p>Work for the distance from <b>Tree 2 to Tree 3</b></p>      <p style="text-align: right;">Distance: _____ ft</p>
<p>Work for the distance from <b>Tree 3 to Tree 4</b></p>      <p style="text-align: right;">Distance: _____ ft</p>	<p>Work for the distance from <b>Tree 4 to Tree 5</b></p>      <p style="text-align: right;">Distance: _____ ft</p>
<p>Work for the distance from <b>Tree 5 to Tree 1</b></p>      <p style="text-align: right;">Distance: _____ ft</p>	<p>Work for the <b>Perimeter of Your Property</b></p>      <p style="text-align: right;">Perimeter: _____ ft</p>

- Company 1 charges \$12 per foot of fence. Find the cost if Company 1 completes the job. Show work!

Cost: \$ \_\_\_\_\_
  
- Company 2 charges \$4600 for the first 550 feet of fence and \$29 for each additional foot. Find the cost if Company 2 completes the job. Show work!

Cost: \$ \_\_\_\_\_
  
- Both companies must charge a 6% sales tax. Determine which company will be the cheapest. Then, find the cost including tax. Round to the nearest cent. Show work!

Company \_\_\_\_\_

Cost: \$ \_\_\_\_\_

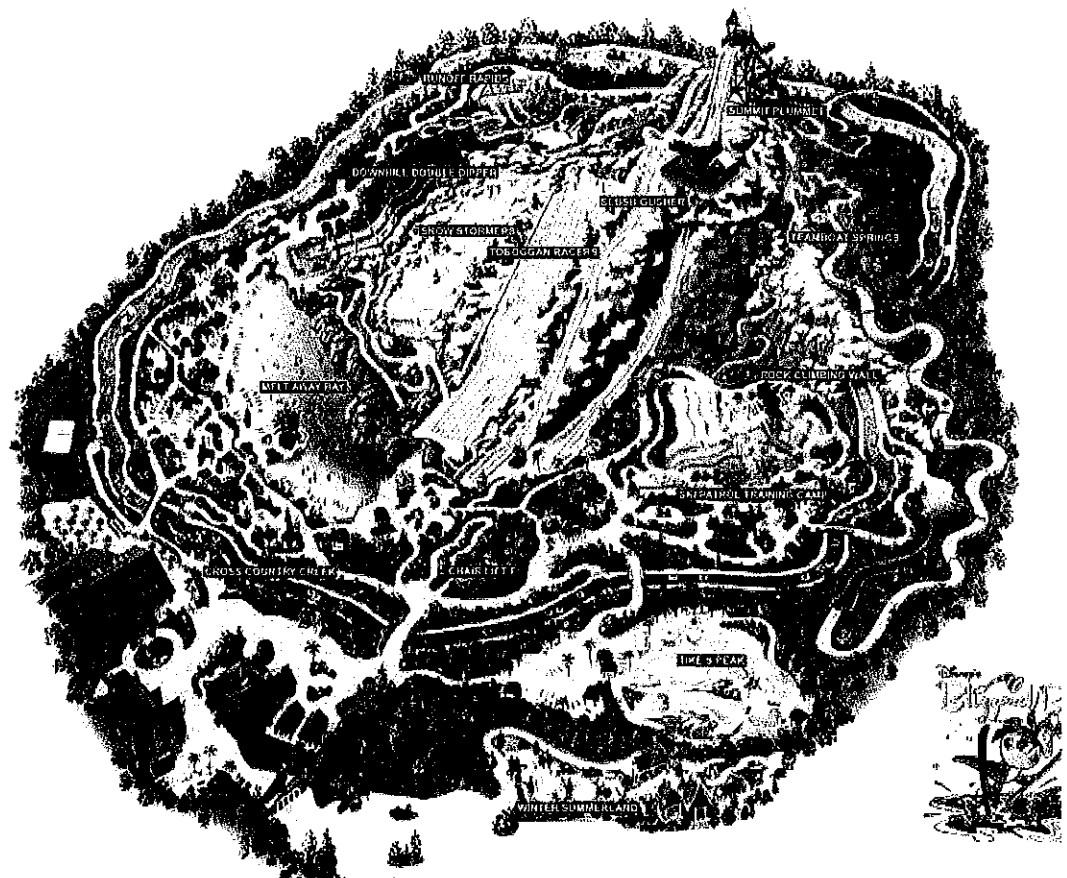
### TASK 1: Designing your Park

You have recently been hired to create a blueprint for a water park. Your boss, Gelatinous Harrington, is a very controlling person. She wants you to include specific attractions and necessities in your design. Be prepared to answer her questions before you have had enough time to adequately explain what you are doing. First off, she wants it to be done on a large sheet of graph paper so that she can apply her mathematical knowledge to make the park the best it can be. She has issues and will yell at you if you do not do this properly. Before starting your blueprint, identify the center of your paper, and use a ruler to draw in the x and y axes. Then, you need to plot the approximate entrance points (where the line starts!) of each attraction on the graph paper and draw in the remaining part of the attraction around it in a creative fashion. Try to spread them out as much as possible. Use a pencil to draw the items and then go back and color them in with colored pencils.

Items to be included on the design are listed below:

- Help center
- Large whirlpool
- 3 different water slides  
(use your imagination)

- Toddler area
- Lazy river
- Concessions
- Gift shop
- Restrooms
- Security desk



**TASK 2: Naming Your Coordinates**

After planning out the layout and design of each water park attraction, you must identify its location by using ordered pairs. Use your "entrance points" as the attractions identifiable location, and fill in the chart below accordingly!

Location:	Ordered Pairs:
Help Center	( _____ , _____ )
Large Whirlpool	( _____ , _____ )
Water Slide #1	( _____ , _____ )
Water Slide #2	( _____ , _____ )
Water Slide #3	( _____ , _____ )
Toddler Area	( _____ , _____ )
Lazy River	( _____ , _____ )
Concessions	( _____ , _____ )
Gift Shop	( _____ , _____ )
Restrooms	( _____ , _____ )
Security Desk	( _____ , _____ )

**TASK 3: Calculating the Slope**

After identifying each attraction's location with ordered pairs, you are now ready to calculate the slope between attractions using the slope formula,

$$\frac{Y_2 - Y_1}{X_2 - X_1}$$

Using a RED pencil and a ruler, MARK the direct path to/from the locations mentioned below. Calculate the slope of the line that is formed, and show your work in the space provided.

Help Center to Water Slide #1	Toddler Area to Concessions
Gift Shop to Restrooms	Security Desk to Water Slide #2
Lazy River to Large Whirlpool	Help Center to Gift Shop
Restrooms to Water Slide #3	Concessions to Lazy River
Water Slide #1 to Water Slide #2	Water Slide #2 to Water Slide #3

**Task 4: Writing Linear Equations.**



In task 3 you identified direct paths between various park attractions by drawing them in with red lines. Now, you will show off your skills by writing equations for each of those red lines.

<p>Help Center to Water Slide #1</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>	<p>Toddler Area to Concessions</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>
<p>Gift Shop to Restrooms</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>	<p>Security Desk to Water Slide #2</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>
<p>Lazy River to Large Whirlpool</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>	<p>Help Center to Gift Shop</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>
<p>Restrooms to Water Slide #3</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>	<p>Concessions to Lazy River</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>
<p>Water Slide #1 to Water Slide #2</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>	<p>Water Slide #2 to Water Slide #3</p> <p>_____</p> <p><math>Y = \underline{\hspace{1cm}} X +</math></p>

Name : \_\_\_\_\_

Score : \_\_\_\_\_

Teacher : Ms. Myers

Date : Week of April 13-17

Tech Math

*Choice #3*

## Advanced Order of Operations - Algebraic

Evaluate each expression.

1)  $(9^2)x - [7x \cdot \{2 - 10\}]$

2)  $[7x^2 - \{12x \div 6\}^2] \cdot [4 - 2]x^{-1}$

3)  $[\{11^3 + 10\}x - (-5)x] - (-11)x$

4)  $(-3)x - (-7) \cdot [(-11)x - \{(-4)^2 + (-4)\}x]$

5)  $[\{(-4)^3 + (-6)\}x - (-2)x] - (-8)x$

6)  $[\{(-14)x \div (-7)x\}^2 - (-8)] \cdot (-6)x + (-4)x$

7)  $[2 - \{4x^2 \div 2x^2\}^3] \cdot 12x$

8)  $[10x + \{16 \div 8\}x] \cdot 3^2 - 10x$

9)  $[4 - \{(-8)x^2 \div (-4)x^2\}^2] \cdot (-4)x$

10)  $[(-5)x^2 - \{(-9)x \div (-3)\}^2] \cdot [(-4) - (-2)]x^{-1}$

11)  $[\{(-10)x \div (-5)x\}^2 - (-6)] \cdot (-3)x$

12)  $[11x + \{18 \div 9\}x] \cdot 2^3 - 7x$



Name: \_\_\_\_\_

Myers/Tech Math/Choice 4/Apr. 13-17

Teacher: \_\_\_\_\_

