Heritage High School – Distance Learning
Mr. Leong's Geometry Assignment Packet
May 26 – May 29

Due Date: Monday, June 1 by 9:00am
Late work will not be accepted

Assignment: Munchies Yogurt (probability)

Students with internet access should go to illuminate.online and use code VYNNFCC. Please read the directions on the next page on accessing Illuminate.

Students with limited internet access can print and complete the assignment (attached). Email me a scan/photo of your work or submit paper copies to the main office on Monday from 12-3pm.

Reading: You can only access the probability chapter of our textbook online (it's not in the physical book). Please follow the steps below to access it:
Clever → Big Ideas Math → Student Dynamic eBook → Geometry → Contents → 12 Probability

Videos: These Khan Academy videos cover the main topics in the assignment:
https://youtu.be/B_vAlneziHo
https://youtu.be/Zxvc6iPKdec
https://youtu.be/VWAfEbgf1Po
https://youtu.be/VjLEoo3hIoM
https://youtu.be/yUaI0JriZtY
https://youtu.be/mLE-SlOZToc
https://youtu.be/PR-A3UAO7_0
https://youtu.be/6zWPgvEMVlE
https://youtu.be/iKy-d5_erhI
https://youtu.be/p8vIcmr_Pqo
https://youtu.be/boH4l1SgJbM

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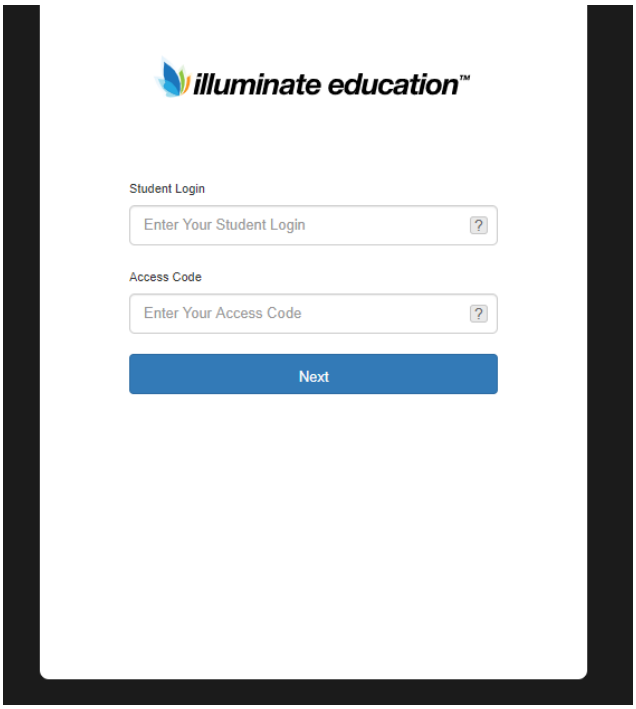
Remind @lnsgmnt
Zoom office hours (TBA)

Accessing Illuminate

In order to access the Unit 9 Applications Assignment please follow the steps below:

1) In your address bar type: illuminate.online
2) You should see the following:



3) In “Student Login” enter your student ID number
4) In “Access Code” enter the code provided by your teacher
5) This will take you to the assignment- You can pause and return to the assignment up to 3 times
6) Be sure to click “Finish” when you are ready to submit

Scenario B: Munchies Yogurt wants to hire you!

Part I

1. Munchies Yogurt is trying to see whether certain new flavors, toppings, and Sauces will be popular enough to release nationwide, so they offered a deal: Buy any of the following yogurts and get one topping and one sauce for free. Here is their current selection:

Yogurt: Soul Deep Chocolate, Stephen Berry, Broccoli

Toppings: Jaw Manglers, Real Tiny Marsh'os

Sauces: Dark Twisted Chocolate, Sauce from the Glaciers, Strawbana, Kale Slurry, Zaza Pachuliou

a. *How many different combinations can you get from the deal?*

b. *Based on your knowledge, list two specific combinations of yogurt, topping, and Sauce that would work best.*

2. Based on the numbers above, the deal that Munchies is offering has 3 yogurts, 2 toppings, and 5 Sauces. What's the probability that the customer picks:

a. *A yogurt with chocolate in it*

b. *A yogurt and Sauce with no chocolate in it*

c. *A Sauce with Chocolate or Kale in it*

d. *A topping with Quinoa in the title.*

Part II

Munchies wants to play a game with its customers. They have two different ideas for a new game.

Idea 1:

A random customer each day will get the opportunity to toss two ping pong balls into yogurt cups. There are 6 yogurt cups, two red and four blues. If the customer lands a ping pong ball into one of the red cups, it gets taken out and the customer must toss the second ball into the other red cup. If he or she wins, they will get $500, and a year's supply of yogurt.

Idea 2:

A random customer each day will get the opportunity to toss two ping pong balls into yogurt cups. There are 6 yogurt cups, two red and four blues. If the customer lands a ping pong ball into a red cup and lands the second in either red cup. They win. Two balls in red cup is a winner. If he or she wins, they will get $500, and a year's supply of yogurt.

3. *Assuming the game is built so that the customer will always get a ping pong ball into one of the cups, what's the probability of the customer winning with idea 1?*

4. *Which idea gives the customer a higher probability of winning, idea 1 or 2? Explain your answer*

Part III

Munchies Marketing Team need to know more about their customers. They decided to survey a small sample of them. They have set up this table to help organize their data:

	Not Lactose Intolerant	Lactose Intolerant	Total
Under 30 years old	65	48	a
Over 30 years old	b	33	c
Total	157	d	e

First, complete the table.

5. *What is the probability of Munchies picking a customer who is lactose intolerant?*

6. *What is the probability of the team randomly picking a customer who is over 30 years old?*

7. *Is it more likely for a customer to be over 30 or under 30, given they are not Lactose Intolerant? Explain*

8. *Is it more likely for a customer to be lactose intolerant, given they're over 30? Explain*

Part IV

9. *The Munchies delivery truck dropped off three unmarked bins of either toppings or Sauces. Since there are 7 toppings and Sauces (2 toppings and 5 sauces) How many different possible combinations could comprise the 3 unmarked bins*

10. *Of the 10 different new items proposed for Munchies management wants to feature 4 of those on a color poster for promotion of the new products. How many different combinations could they have on their new poster?*