

Toy Box Design

Due Tuesday, January 12th!!!!

Challenge: To create a rectangular prism shipping box that will hold a various list of toys that you need to ship for the holidays. You want to create a box big enough to hold all the items without having a lot of extra space.

Directions:

1. You will need to research the formula and be able find the volume of different 3-dimensional figures (sphere, cone, rectangular prism, triangular prism, cylinder).
2. You have **eight** friends and family members that you have to give gifts to. Required gifts: 2 athletic balls, 1 baseball bat (*hint*: assume the volume is close to a cone shape), 1 tennis racket case, and two toblerone chocolates. The other **two members** are **letting you decide** what to get them as a gift. If you have extra space, you can ship more gifts than required.
3. You have to **find the volume of all the gifts** you are planning to ship and create a rectangular box that will have enough volume to hold them all. *Hint: You must research the typical sizes of the athletic equipment you are planning to ship. For example: you wouldn't want to ship a soccer ball that is 2 inches tall. That is NOT the typical size of a soccer ball.*
4. Finally, you must figure out the **how much space the packing peanuts must fill** in the rest of the box's volume (the volume not used by all the gifts).

Grading:

You will be graded along the way with the assignments you complete. You will have a chart that will be kept in the room **at all times!** If you lose it, it will cost 5 points on your total grade to start over! I will sign off when you have completed each task. If it is not 100%, I will return it with the areas to be fix highlighted.

Extra Credit:

If you turn in the project by the end of the class period on Friday, you will receive five bonus points on your project. If you turn it in on Monday, three bonus points. It is then due on Tuesday to be able to receive up to full credit.

Grading Rubric:

(80 points total)

1. Formulas of 3-dimensional figures (10 points)
2. List of gifts chosen to be sent (5 points)
3. Work and volume of each item shown and figured out (24 points)
4. Work to figure out the volume of the packing peanuts (10 points)
5. Homework Completed (25 points; 5 points per homework)
6. Completed on Time and Few Spelling/Grammar Errors (6 points)