Volume and Surface Area Project (Option 1)

**Directions**: Your task is to reinvent an old cereal box, or shoe box or facial tissue box. First, calculate the volume of the box. Then, cut the box into its net and create a new title and a new design. Next, measure the dimensions of your box and label the dimensions on the net. Remember that all rectangular prisms have 6 faces. Calculate the surface. Show your work on the Product Design Sheet. **Due date: November 28th.**

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Points possible** | **Points received** |
| The dimensions are labeled clearly. | 6 |  |
| The surface area is calculated correctly. | 10 |  |
| The volume is calculated correctly. | 10 |  |
| Units are represented correctly. | 6 |  |
| The title and design of the box is creative and interesting. | 8 |  |
| The project is organized and neat. | 8 |  |
| Extra Credit: There is one or more fractional edge length involved in the calculations. | EX 2 |  |
| **Total** | **48** |  |

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| The project is organized and neat. | 8 |  |
| Extra Credit: There is one or more fractional edge length involved in the calculations. | EX 2 |  |
| **Total** | **48** |  |

Volume of a Robot/Creature Project (Option 2)

**Directions**: Your task is to design a robot or creature made up of prisms and/or pyramids. Your robot must have a body, 2 legs, 2 arms and a hat. You will calculate the volume of each part of the robot/creature. Then, find the volume of the robot. Last, build your robot/creature and cover your robot in aluminum foil, wrapping paper, or any other materials and give it some swag. **Due date: November 28th.**

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Points possible** | **Points received** |
| The names of all figures are correct on the worksheet. | 10 |  |
| The dimensions are measures correctly and listed on the worksheet. | 10 |  |
| The volume is calculated correctly. | 10 |  |
| Units are represented correctly. | 6 |  |
| The project is organized and neat. | 6 |  |
| The design of the robot is creative. | 6 |  |
| Extra Credit for creativity | EX 2 |  |
| **Total** | **48** |  |

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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|  |  |  |
| --- | --- | --- |
| **Criteria** | **Points possible** | **Points received** |
| The names of all figures are correct on the worksheet. | 10 |  |
| The dimensions are measures correctly and listed on the worksheet. | 10 |  |
| The volume is calculated correctly. | 10 |  |
| Units are represented correctly. | 6 |  |
| The project is organized and neat. | 6 |  |
| The design of the robot is creative. | 6 |  |
| Extra Credit for creativity | EX 2 |  |
| **Total** | **48** |  |

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**My Robot/Creature Worksheet**

1. Name the figure for each body part.
2. Measure the dimensions in cm or inches.
3. Then, calculate the volume and show all of your work.

|  |  |
| --- | --- |
| **Body (Name of figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Volume \_\_\_\_\_\_\_\_\_\_\_** | **Head (Name of figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Volume\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Arms**  **(Name of figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Volume \_\_\_\_\_\_\_\_\_\_\_** | |
| **Legs**  **(Name of figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Volume \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |

**The total volume of my Robot or Creature is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**My Product Design**

**My Product Design Sheet**

**Name of your Product: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**What makes your product special?**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Drawing of the net of your product’s figure with the dimensions labeled:**

**Surface Area:** **Volume Formula:**

**SA=**  **V=**