Volume and Surface Area Project

**Directions**: Your task is to reinvent an old cereal box, or shoe box or facial tissue box. Cut the box into it’s net and create a new title and a new design. Next, measure the dimensions of your box and label the dimensions. Remember that all rectangular prisms have 6 faces. Calculate the surface area and volume and complete the worksheet. Staple/tape the worksheet card to your product You will be presenting your work to your classmates. **Due date: December 7th.**

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Points possible** | **Points received** |
| The dimensions are labeled clearly. | 3 |  |
| The surface area is calculated correctly. | 5 |  |
| The volume is calculated correctly. | 5 |  |
| Units are represented correctly. | 3 |  |
| The title and design of the box is creative and interesting. | 4 |  |
| The project is organized and neat. | 4 |  |
| Extra Credit: There is one or more fractional edge length involved in the calculations. | EX 2 |  |
| **Total** | **24** |  |

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

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| **Total** | **24** |  |

Surface Area of a Robot Project

**Directions**: Your task is to design a robot made up of prisms and/or pyramids. Your robot must have a body, 2 legs, 2 arms and a hat. You will draw the net for each robot part and find the Surface Area. Then, find the total surface area of the robot. Last, build your robot and cover your robot in aluminum foil, wrapping paper, or any other materials and give it some swag. **Due date: December 7th.**

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Points possible** | **Points received** |
| The nets of all figures are drawn on the nets worksheet. | 5 |  |
| The dimensions are labeled correctly on the net worksheet. | 5 |  |
| The surface area is calculated correctly. | 5 |  |
| Units are represented correctly. | 3 |  |
| The project is organized and neat. | 3 |  |
| The design of the robot is creative and understanding. | 3 |  |
| Extra Credit | EX 5 |  |
| **Total** | **24** |  |

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

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| --- | --- | --- |
| **Criteria** | **Points possible** | **Points received** |
| The nets of all figures are drawn on the nets worksheet. | 5 |  |
| The dimensions are labeled correctly on the net worksheet. | 5 |  |
| The surface area is calculated correctly. | 5 |  |
| Units are represented correctly. | 3 |  |
| The project is organized and neat. | 3 |  |
| The design of the robot is creative and understanding. | 3 |  |
| Extra Credit | EX 5 |  |
| **Total** | **24** |  |

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

**My Robot Nets Worksheet**

1. Draw the net for each of your robot’s body parts.
2. Measure the dimensions in cm.
3. Then, find the Surface Area (by adding or using the formula).

|  |  |
| --- | --- |
| **Body (Name of Net’s figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Area\_\_\_\_\_\_\_\_\_\_\_** | |
| **Head**  **(Name of Net’s figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Area\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Hat**  **(Name of Net’s figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Area\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Arms**  **(Name of Net’s figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Area\_\_\_\_\_\_\_\_\_\_\_** | **Legs**  **(Name of Net’s figure:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)**  **Area\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

**The total surface area of my robot is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**My Product Design**

**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=**