**The Second Question: Sample Rigorous Items and Performance Items**

1. **LaToya is testing how much weight a bag can hold. She plans to put juice bottles into three bags. She wants each bag to have a total weight within the given range.**





1. **Draw juice bottles into each bag so that the weight is within the given range. Show your thinking.**
2. **Leave the bag empty if the given range is not possible using juice bottles. Explain how you know the juice bottles will not fit in the given range.**
3. **The point on the number line shows the location of -3** $\frac{1}{2}$**. Write each expression into a box to show its correct location on the number line.**



**-3**$\frac{1}{2}$ **– (-5)**

**-3**$\frac{1}{2}$ **- 3**$\frac{1}{2}$

**-3**$\frac{1}{2}$ **+ (-5)**

**-3**$\frac{1}{2}$ **+ 3**$\frac{1}{2}$

1. **Given the expressions:**

**5**$\sqrt{7}$$\sqrt{13}$ **38 ÷ 36 20 –** $\sqrt{20}$$\sqrt[3]{8}$ **(**$\sqrt{4}$**)2**

1. **Three unique expressions whose sum is less than 10. Explain how you know.**
2. **Three unique expressions whose sum is between 10 and 20. Explain how you know.**
3. **Three unique expressions whose sum is greater than 20. Explain how you know.**
4. **A circle has its center at (6 , 7) and goes through the point (1 , 4) . A second circle is tangent to the first circle at the point (1 , 4) and has the same area.**

**What are the coordinates for the center of the second circle? Show your work or explain how you found your answer.**

1. **Tanya is buying a used car. She will choose between two cars. The table below shows information about each car.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Car** | **Cost** | **Miles per Gallon****(MPG)** | **Estimated intermediate Repairs** |
| **Car A** | **$3200** | **18** | **$700** |
| **Car B** | **$4700** | **24** | **$300** |

**Tanya wants to compare the total costs of buying and using these cars.**

* **Tanya estimates she will drive at least 200 miles per month.**
* **The average cost of gasoline per gallon in her area is $3.70.**
* **Tanya plans on owning the car for 4 years.**

**Calculate and explain which car will cost Tony the least to buy and use.**

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