Determining the Volume of an Irregular Shapes

Objective
To measure the volume of irregularly shaped objects using the water displacement method.

Data and Observations
1) Complete the table. Make sure you include units.

<table>
<thead>
<tr>
<th>A. Object</th>
<th>B. Size of Graduated Cylinder</th>
<th>C. Error of the Graduated Cylinder</th>
<th>D. Initial Volume of the water</th>
<th>E. Volume of Water and Object</th>
<th>F. Volume of Object and the error. ([E-D] \pm C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Figurine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 marbles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Die</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Questions
1. Calculate the volume of one marble from the information you have in the table above.

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2. Calculate the volume of the die using a ruler.

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3. Compare the volume determined using a ruler versus the volume determined using the water displacement method, is there a difference in these two values?

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If so, what could be the cause of the difference?

This worksheet created by LEAPS graduate Fellow Margaret Richards