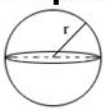
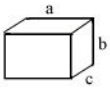
Homework Check: Density Name _____ Block _____

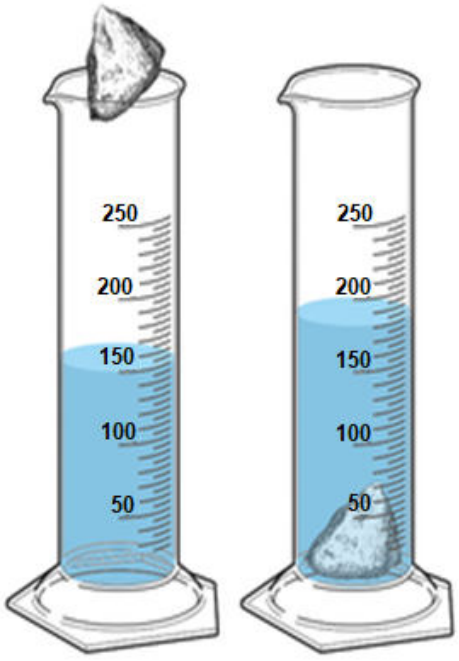
Show work for all problems!

Volume

• **Cube:**  Volume = a^3	• **Sphere:**  Volume = (4/3) × pi × r^3
• **Rectangular Prism:**  Volume = a × b × c	• **Cylinder:**  Volume = pi × r^2 × h

1. Iron has a density of 7.86 g/cm^3. What is the mass in grams of a cube of iron that measures 12.5 cm on a side?

2. A flag pole has a mass of 30.0 kg and a length of 12 meters. If the radius is 9.5 cm, what is the density of the flag pole?



3. The density of a piece of metal is determined by the water displacement method. The metal had a mass of 17.30 g. Use the image to the left to determine the density of this object. Record your answer to the proper number of significant digits.

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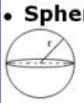
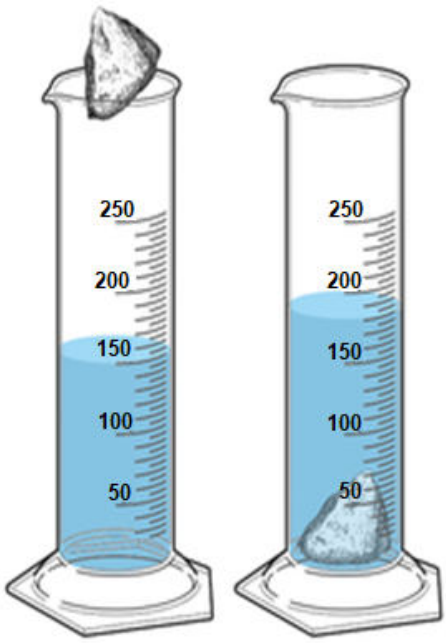
Volume

• **Cube:**  Volume = a^3	• **Sphere:**  Volume = (4/3) × pi × r^3
• **Rectangular Prism:**  Volume = a × b × c	• **Cylinder:**  Volume = pi × r^2 × h

1. Silver has a density of 10.5 g/cm^3. A rectangular block of silver has a width of 9.75 cm and a length of 11.40 cm and a mass of 5.25 kg. What is the height of the block?

2. A plastic ball has a mass of 4.25 grams and a radius of 1.5 cm. What is the density of the ball?



4. The density of a piece of metal is determined by the water displacement method. The metal had a mass of 8.92 g. Use the image to the left to determine the density of this object. Record your answer to the proper number of significant digits.