

## Answer on Question #69470, Physics / Mechanics | Relativity

Rank the following in terms of increasing density:

- A. A 100 g object with a volume of 25 cubic centimeters
- B. A 200 g object with a volume of 100 cubic centimeters
- C. A 100 g object with a volume of 100 cubic centimeters
- D. A 400 g object with a volume of 50 cubic centimeters

### Solution:

We use the equation for body density

$$\rho = \frac{m}{V}$$

Where, m is the mass of object, V is the volume of object and  $\rho$  it's the density

- A.  $\rho = 100 \text{ g} / 25 \text{ cm}^3 = 4 \text{ g/cm}^3$
- B.  $\rho = 200 \text{ g} / 100 \text{ cm}^3 = 2 \text{ g/cm}^3$
- C.  $\rho = 100 \text{ g} / 100 \text{ cm}^3 = 1 \text{ g/cm}^3$
- D.  $\rho = 400 \text{ g} / 50 \text{ cm}^3 = 8 \text{ g/cm}^3$

We obtain in terms of density increase: B. C. A. D.

**Answer: B. C. A. D.**