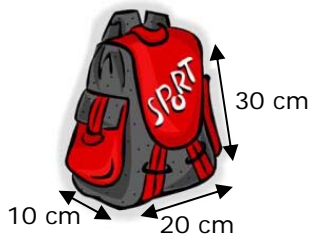Name _____   Date _____

Using Density in Real-life Situations - Guided Lesson

Complete the following problems:

1) A big showroom has 0.25 million square feet. At the last summer sale, the manager surveyed the showroom to make sure there wasn't overcrowding. They found the population density to 0.003 people per square foot. This included all people in the building. How many total people attended the summer sale at this showroom on that day?

2) The new government of a country passes a law that targets primary school aged children. The law states that the school bags must not be more than 7 kg and have a volume of 10,000 cm^3.

Jenny's father measures her bag. He writes down the density of Jenny's bag, but he forgets to write down the mass of her bag. Jenny used a measuring tape to measure the dimensions of her bag. Does this bag qualify as a carry-on if density of bag is 0.001 kg/cm^3?

30 cm

10 cm   20 cm

3) A traveling company decided that luggage should not be more than 20 kg and have a volume of 17,000 cm^3. Kitty measures her bag. She writes down the density of her bag, but she didn't write the mass of her bag. The dimensions of her bag are height 25 cm, length 15 cm, width 30 cm and density of bag is 0.0015 kg/cm^3. Does this luggage fulfill the criteria of traveling company?

25 cm

30 cm   20 cm