

Math 29
In-class Problems on Scaling

1. The density of iron is $7.86 \frac{\text{gm}}{\text{cm}^3}$. What is the weight in pounds of an iron block whose volume is 3 cubic yards. Note that 1 yard is equal to 3 feet, 1 pound is 453.6 grams, and 100 centimeters is 3.281 feet.
2. This summer I went to France, where the exchange rate was one Euro for every \$1.26. While I was there I rented a car. I filled my tank with 13 gallons of gas at a gas station charging 1.37 Euros per liter. At the same time in Los Angeles the price of gas was \$3.11 a gallon. How much more did it cost to fill my tank in France with 13 gallons of gas than it would have cost in Los Angeles? Note: one liter is .2643 gallons.
3. My husband is 5'8" and wears jeans with an inseam length of 31". His cousin, Jean-Luc, who lives in rural France is 2 meters tall and roughly proportional to my husband. I want to send Jean-Luc a pair of American jeans as a present. Determine the inseam length of the pants I should buy. Remember that pants are only available in sizes which are whole numbers.