
Problem Solving #4

Due: Friday, November 18

Work in groups of 3 or 4. Each group should submit one paper. This problem set is due **Friday, November 18**.

You still work in the corporate office of a toy manufacturing company, and you have just received this new memo from your less-than-intellectually-gifted boss. It helps to pretend that your name is Bill for this.

11 Nov 2005

Bill,

As per your suggestion, we are making one Ultra-Huge Flame-Throwing Dumbo Doll, and I'm really glad that we'll be showing a profit this year! Now we just need to finish the design.

The first sticking point seems to be the size of the fuel canister. We're putting it into the hat of the Dumbo Doll, which is a cone 20 meters high with a radius of 8 meters. The fuel canister itself needs to be a cylinder, but I don't know what radius or height it should be. It's better to have more fuel, so we'd like to have the biggest possible volume inside the canister.

You did a really good job with the last assignment, so I'm sending this one to you. Let me know how big the canister should be, and you might even get a promotion!

Your boss,
Willith Lumberger

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- Part 1: Write a reply to your boss that he can understand. Be diplomatic enough to not get yourself fired. Include your recommendation. Imagine you're giving this to your real boss.
 - Part 2: On a separate page, explain to your instructor why the answer you gave to your boss is correct. A diagram would be helpful.

Your responses must be typed using complete sentences.