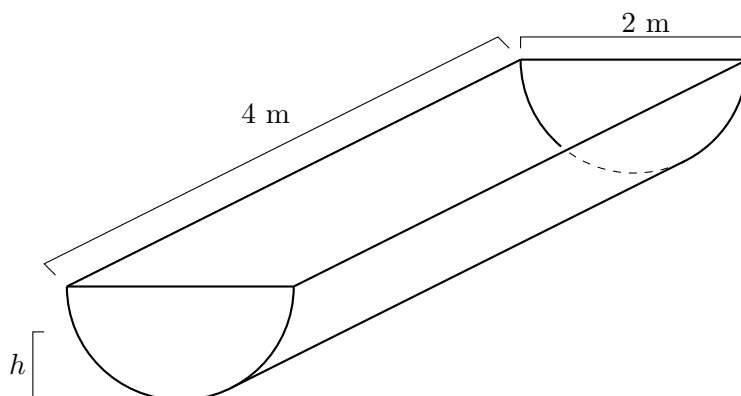


6. [10 points] O-guk loves to eat vegetables, especially carrots. Every morning, he eats a bin filled to the top with shredded carrots. The bin is in the shape of a half cylinder and it is pictured below. The density of the carrots at height h m from the bottom of the bin is given by $\delta(h)$ kg/m³.



- a. [6 points] To get an idea of how much he eats, write an expression involving integrals that gives the mass of the carrots in the bin. Include **units**. Don't compute any integrals.
- b. [4 points] Write an expression involving integrals that gives the h -center of mass of the carrots in the bin. Don't compute any integrals.