

8.G Shipping Rolled Oats

Task

Rolled oats (dry oatmeal) come in cylindrical containers with a diameter of 5 inches and a height of $9\frac{1}{2}$ inches. These containers are shipped to grocery stores in boxes. Each shipping box contains six rolled oats containers. The shipping company is trying to figure out the dimensions of the box for shipping the rolled oats containers that will use the least amount of cardboard. They are only considering boxes that are rectangular prisms so that they are easy to stack.

- a. What is the surface area of the box needed to ship these containers to the grocery store that uses the least amount of cardboard?
- b. What is the volume of this box?



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