

Problem 5.3

Natasha builds a model ship from a kit. She tries to picture what the actual ship looks like. The scale factor from the model to the actual ship is 200.

Part A

1. If the length of the model is 25 cm, what is the length of the actual ship?
2. If the length of the flagpole on the actual ship is 30 m, what is the length of the flagpole on the model?

Part B

The area of a rectangular floor on the model is 20 square cm. What is the area of the floor on the actual ship?

Part C

The cylindrical smoke stack on the model has a height of 4 cm and a radius of 1.5 cm.

1. What are the dimensions of the smoke stack on the actual ship?
2. What is the volume of the smoke stack on the actual ship?
3. What is the surface area of the smoke stack on the actual ship?