Name: _____ Date: _____

Chapter 7 Gifted and Enrichment

1. The diameter of a bagel is 10 cm, the diameter of the hole in the bagel is 3 cm, and the bagel is 4.5 cm thick. What is the volume of the bagel?

2. An open rectangular flatbed 6 m long by 4 m wide by 10 cm tall is being used to transport cans with heights of 10 cm and diameters of 5 cm. How much space will be unoccupied in the flatbed?

3. The formula for calculating the volume of a sphere is $V = \frac{4}{3}\pi r^3$.

A giant jawbreaker candy has a diameter of 5 cm and consists of five flavours: a sphere of orange, coated with a layer of cherry, lemon, grape, and then peach. The volume of each flavour is the same. What is the diameter of the orange sphere?

4. The triangular base of a prism has a base of x and a height of $2x$. The prism is 10 cm tall. If the base of the triangular base is increased by 1 cm and the height of the base of the triangular base is increased by 2 cm, the volume of the prism increases by 130 cm^3. What is the whole number value of x?

5. A wooden square-based prism is turned on a lathe to make a cylinder with the same diameter as the length of the side of the square. The prism has a height of 20 cm. Express, as a percent, the waste expected turning a prism into a cylinder.