

Chapter 7 Problems of the Week

<p>1. May is painting two solid shapes. One is a right triangular prism with a base of 22.5 cm^2 and a height of 12 cm. The other shape is a rectangular prism with a square base of 64 cm^2 and a height of 5 cm. Which shape will require more paint?</p>	<p>2. When finding the volume of a right rectangular prism or a right triangular prism, a teacher points out to the students that a <i>base</i> is not necessarily the bottom of the solid. What does this mean?</p>
<p>3. Using two pieces of 21.6-cm by 28-cm paper, construct one cylinder with a height of 28 cm and another cylinder with a height of 21.6 cm. Find the difference in volume of the two cylinders.</p> <p>a) Which cylinder has the greater volume? Express your answers to one decimal place.</p> <p>b) Were you surprised by your results? Explain.</p>	<p>4. A solid block with dimensions of 4 cm by 4.5 cm by 5 cm is placed inside a rectangular container with dimensions of 8 cm by 9 cm by 10 cm. What is the volume of the space not occupied by the solid block?</p>
<p>5. Marina is about to paint a cylinder with a diameter of 10 cm and a length of 61 cm. Her container of paint will cover 324 cm^2 of surface area. How many of these containers does she need to completely cover the cylinder?</p>	<p>6. A planter in the shape of a rectangular prism has a height of 1.5 m, a width of 3 m, and a length of 4 m. If the planter were filled with dirt to within 0.25 m of the top of the planter, how many 0.5-m^3 wheelbarrow loads would it take to fill it?</p>