

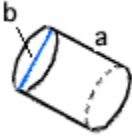
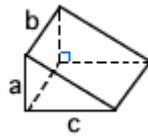
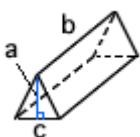

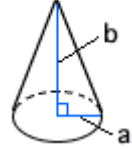
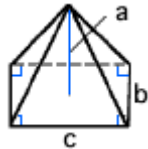
First name: _____ Last name: _____

Student ID: _____

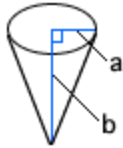
Chapter 8 Geometry 3 (Volume) Homework

Basic problems

- 1. Find the volume of each solid to the nearest tenth. (use $\pi = 3.14$) Show work!**
If there is not enough room, please do them on a piece of line paper.

<p>1. </p> <p>$a = 6 \text{ cm}$ $b = 16 \text{ cm}$</p>	<p>2. </p> <p>$a = 8.55 \text{ km}$ $b = 5 \text{ km}$ $c = 11 \text{ km}$</p>	<p>3. </p> <p>$a = 6.55 \text{ ft}$ $b = 11 \text{ ft}$ $c = 11 \text{ ft}$</p>
<p>4. </p> <p>$a = 2.1 \text{ yd}$</p>	<p>5. </p> <p>$a = 3 \text{ m}$ $b = 5 \text{ m}$</p>	<p>6. </p> <p>$a = 9 \text{ cm}$ $b = 8 \text{ cm}$ $c = 7 \text{ cm}$</p>

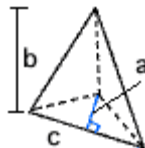
7.



$$a = 1 \text{ ft}$$

$$b = 4 \text{ ft}$$

8.

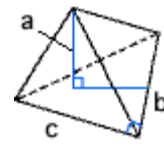


$$a = 3 \text{ km}$$

$$b = 6 \text{ km}$$

$$c = 9 \text{ km}$$

9.



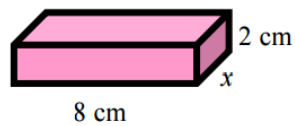
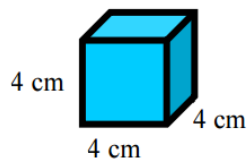
$$a = 3.2 \text{ in}$$

$$b = 8.2 \text{ in}$$

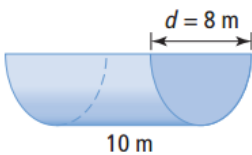
$$c = 9.8 \text{ in}$$

Word problems:

1. The volumes of the cube and the rectangular prism are equal. Determine the surface areas of the rectangular prism.



2. Determine the volume of the semi-circular trough.



3. A sphere has a volume of $12\pi \text{ m}^3$. What is the surface area?

4. Suppose a sphere has a surface area of 48π . What is the volume?

5. In a cylinder, $r = 4$ and surface area $S = 210$. Find the height and volume of the cylinder.

6. Captain Howard had his crew paint the smokestack on his ship the Sea Snail. The smokestack is shaped like a cylinder and is 40 feet 2 inches tall. The radius of the smokestack's base is nine feet. What is the volume of the smokestack?

7. Daniel has a great idea. He wants to fill a box with hot liquid chocolate and let it cool until it solidifies. The box is shaped like the figure and has a bottom area of 18 in^2 . If he has 64.8 cubic inches of chocolate and he wants the box to be as tall as possible, how big should he make the box?



8. A pillar from an ancient city was found buried in the ground. It had a cross-sectional shape like that shown in the figure. If the area of the cross section is eighteen and four hundredths square meters, and the pillar was twenty and five tenths meters tall, what was the total volume of stone contained by the pillar?



9. A water tank has been purchased for the farm. It will be used to water cattle. It is an oval shaped metal container that is 2.7 feet tall. The area of the bottom of the tank is 7.4 square feet. If the cattle drink two hundred thirty-seven cubic feet of water a day, how many times per day will the tank have to be filled?

10. An octagonal pyramid has 9 vertices. Using Euler's formula, how many edges does it have?