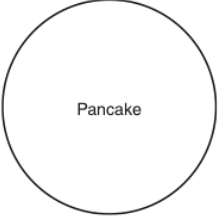

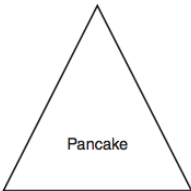
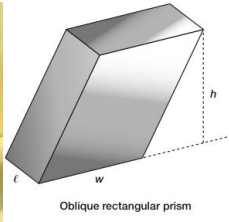
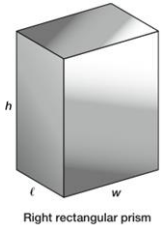


The math club at school is planning a pancake breakfast as a fund-raiser. Because this is a fund-raiser for the math club, the pancakes will use various geometric shapes!

<p>1. Imagine you stack congruent circular pancakes on top of each other.</p> <p>a. What is the name of the solid formed by this stack of pancakes?</p> <p>b. What is the formula for the area of the bottom of the pancake? What information would you need to find the area?</p> <p>c. What is the formula for the volume of the stack of pancakes? What information would you need to find the volume?</p>		<p>6. Imagine you stack similar circular pancakes on top of each other so that each layer of the stack is composed of a slightly smaller pancake than the previous layer.</p> <p>a. What is the name of the solid formed by this stack of pancakes?</p> <p>b. What is the formula for the area of the bottom of the pancake? What information would you need to find the area?</p> <p>c. What is the formula for the volume of the stack of pancakes? What information would you need to find the volume?</p>
<p>2. Imagine you stack congruent square pancakes on top of each other.</p> <p>a. What is the name of the solid formed by this stack of pancakes?</p> <p>b. What is the formula for the area of the bottom of the pancake? What information would you need to find the area?</p> <p>c. What is the formula for the volume of the stack of pancakes? What information would you need to find the volume?</p>		<p>7. Imagine you stack similar square pancakes on top of each other so that each layer of the stack is composed of a slightly smaller pancake than the previous layer.</p> <p>a. What is the name of the solid formed by this stack of pancakes?</p> <p>b. What is the formula for the area of the bottom of the pancake? What information would you need to find the area?</p> <p>c. What is the formula for the volume of the stack of pancakes? What information would you need to find the volume?</p>
<p>3. Imagine you stack congruent triangular pancakes on top of each other.</p> <p>a. What is the name of the solid formed by this stack of pancakes?</p> <p>b. What is the formula for the area of the bottom of the pancake? What information would you need to find the area?</p> <p>c. What is the formula for the volume of the stack of pancakes? What information would you need to find the volume?</p>		<p>8. Imagine you stack similar triangular pancakes on top of each other so that each layer of the stack is composed of a slightly smaller pancake than the previous layer.</p> <p>a. What is the name of the solid formed by this stack of pancakes?</p> <p>b. What is the formula for the area of the bottom of the pancake? What information would you need to find the area?</p> <p>c. What is the formula for the volume of the stack of pancakes? What information would you need to find the volume?</p>
<p>4. What type of solid would be formed by stacking congruent rectangles? Pentagons? Hexagons?</p>		<p>9. What type of solid would be formed by stacking similar rectangles? Pentagons? Hexagons?</p>

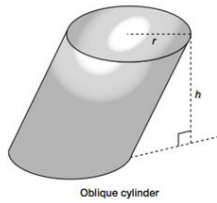
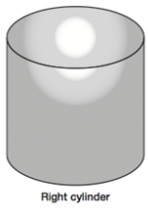
5. The volume formula for prisms and cylinders is  $V = Bh$ . Based on #1-4, explain why this makes sense.

10. The volume formula for pyramids and cones is  $V = \frac{1}{3}Bh$ . Based on #1-4, explain why this makes sense.



11. A right rectangular prism can be created by stacking a set of CD cases up. How would you find the volume of the right rectangular prism?

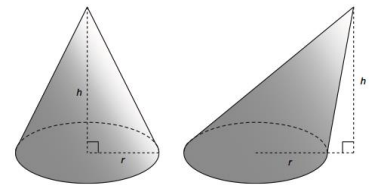
12. The same stack of CDs can be stacked at an angle. What do you think the volume of the oblique rectangular prism would be? Explain your reasoning.



13. A right cylinder can be created by stacking a set of quarters up. How would you find the volume of the right rectangular prism?

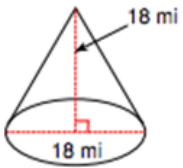
14. The same stack of quarters can be stacked at an angle. What do you think the volume of the oblique cylinder would be? Explain your reasoning.

15. What can you conclude about the volume of these two cones, assuming the heights are equal and the radii in each cone are congruent?

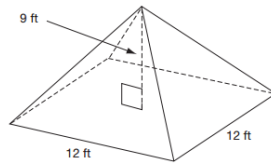


Using what you have learned about volumes of solids, find the missing information. Make sure to include units!

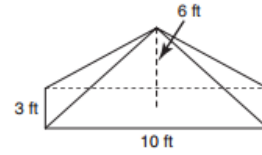
16. Find the volume.



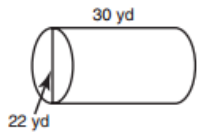
17. Find the volume.



18. Find the volume.



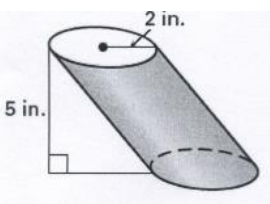
19. Find the volume.



20. Find the height of a cylinder with a volume of  $720\pi \text{ ft}^3$  and a radius of 6 ft.

21. Find the radius of a cone with a volume of  $175 \text{ cm}^3$  and a height of 21 cm.

22. Find the volume.



23. Find the height of a cone with a volume of  $21 \text{ ft}^3$  and a radius of 4 ft.

24. Find the volume of the triangular prism.

