

Independent Practice: APPLICATION OF VOLUME

NAME: _____

DATE: _____

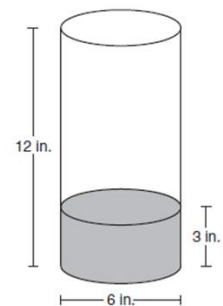
PERIOD: _____

1.

+	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

A cylindrical glass vase is 6 inches in diameter and 12 inches high. There are 3 inches of sand in the vase, as shown below. Approximately how much water can the vase hold? (Round your answer to the nearest hundredth).

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



2.

+	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

Apple Tree Juice Company packages its most popular drink in rectangular juice boxes, 8 cm by 4 cm by 10 cm. How many cubic centimeters of juice will the juice boxes hold?

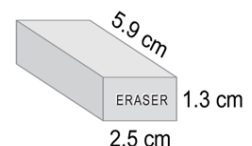
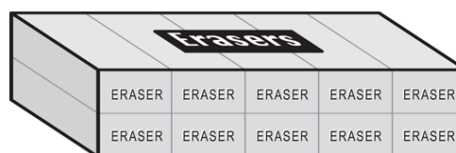
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

3.

+	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

Ms. Lee bought a small rectangular box that contains 10 tightly packaged erasers shaped like rectangular prisms, as shown below. What is the approximate volume in cubic centimeters of this rectangular box? (Round to the nearest centimeter)

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



4.

+	•	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4
	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9

Steven wants to fill her turtle's tank half full of sand. If the tank measures 18 inches in length, 12 inches in width, and 12 inches in height, how much sand will she need? (HINT: 1 foot = 12 inches)

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

5.

+	•	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4
	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9

Jerry is building a rectangular patio measuring 12.5 feet long by 8 feet wide. If the floor will be a cement slab 3 inches thick, how many cubic feet of cement will it take to build the slab?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

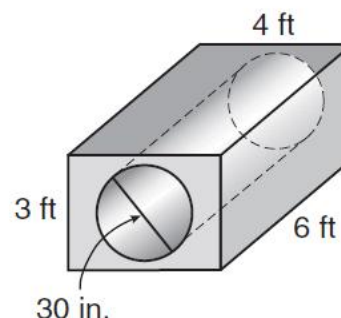
6.

+	•	•	•	•	•	•	•	•
-	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1
	2	2	2	2	2	2	2	2
	3	3	3	3	3	3	3	3
	4	4	4	4	4	4	4	4
	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6
	7	7	7	7	7	7	7	7
	8	8	8	8	8	8	8	8
	9	9	9	9	9	9	9	9

A pipe in the shape of a cylinder with a 30-inch diameter is to go through a passageway shaped like a rectangular prism. The passageway is 3 ft high, 4 ft wide and 6 ft long. The space around the pipe is to be filled with insulating material.

What is the volume, to the nearest cubic foot, of the space to be filled with insulating material?

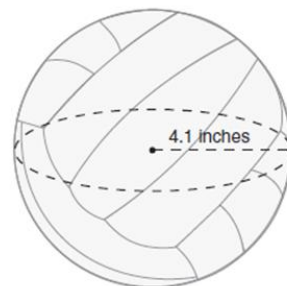
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.



7. $V \approx$ _____

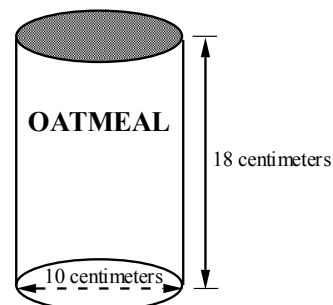
S.A \approx _____

Look at the drawing of a volleyball shown below. What is the approximate volume of this volleyball? How much synthetic leather is needed to make the volleyball? Round your answer to the nearest cubic inch.



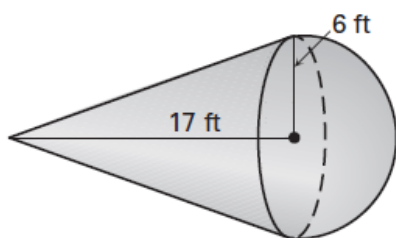
8. _____

Oatmeal is packaged in a cylindrical container with the dimensions shown in the drawing. Find the EXACT volume of the container.

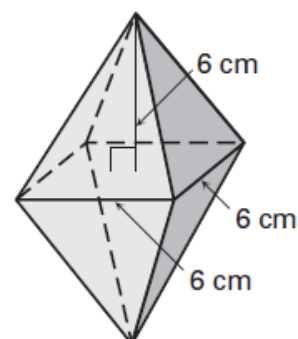


Find the volume of the solid. The prisms, pyramids, cylinders and cones are right. Round your answer to two decimal places.

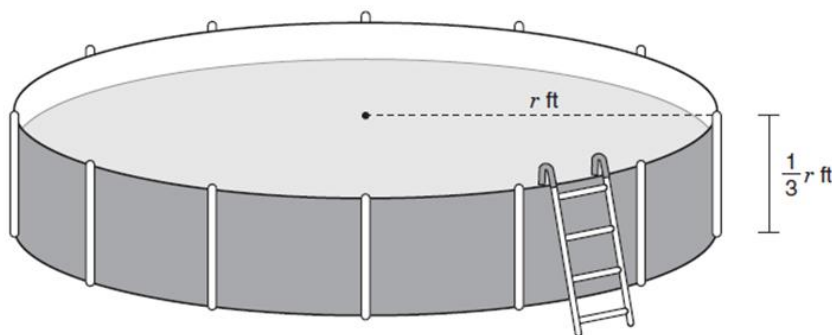
9. $V \approx$ _____



10. $V =$ _____



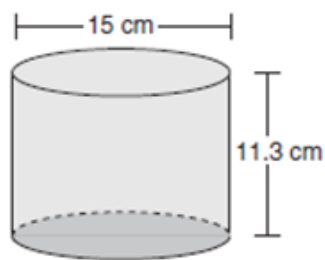
11. The drawing below shows an aboveground swimming pool in the shape of a cylinder with a radius of r feet and a height of $\frac{1}{3}r$ feet



If the water level is x feet from the top of the swimming pool, which expression best represents the volume of water in the pool in cubic feet?

- A. $\frac{1}{3}\pi r^3 - \pi x$ B. $\frac{1}{3}\pi r^3 - \pi r^2 x$
- C. $\frac{1}{3}\pi r^3 + \pi r^2 x$ D. $\frac{1}{3}\pi r^3 + \pi x$
-

12. Miguel has a cylinder with the dimensions shown below. The cylinder is filled to capacity with water.



If Miguel wants to pour out all the water in this cylinder into 1 of the four rectangular prisms without any water spilling out of the prism, which of the following prisms should he use?

