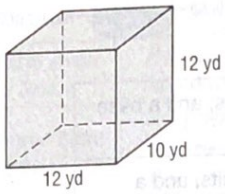
NAME _____ DATE _____ PERIOD _____

12-2 Skills Practice

Surface Areas of Prisms and Cylinders

Find the lateral area and surface area of each prism. Round to the nearest tenth if necessary.

1.



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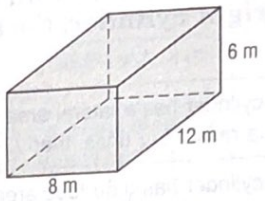
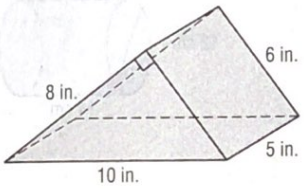


3.



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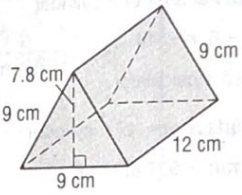
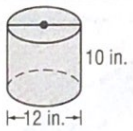


Find the lateral area and surface area of each cylinder. Round to the nearest tenth.

5.



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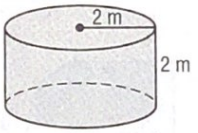
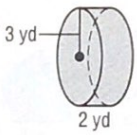


7.



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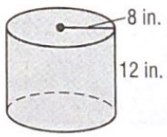


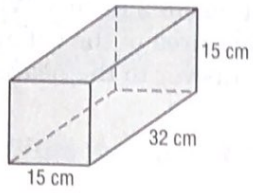
NAME _____ DATE _____ PERIOD _____

12-2 Practice

Surface Areas of Prisms

Find the lateral and surface area of each prism. Round to the nearest tenth if necessary.

1.



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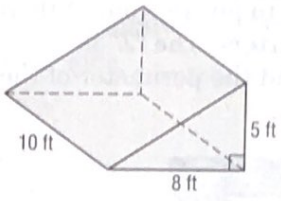

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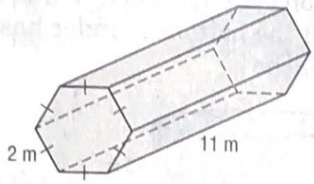

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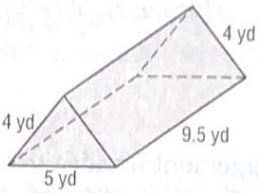
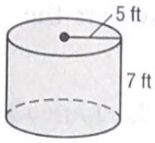


Find the lateral area and surface area of each cylinder. Round to the nearest tenth.

5.



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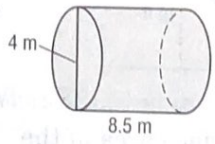

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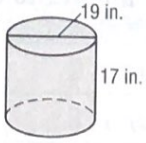

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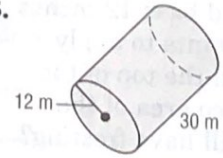


Lesson 12-2

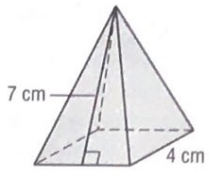
NAME _____ DATE _____ PERIOD _____

12-3 Skills Practice

Surface Areas of Pyramids and Cones

Find the lateral area and surface area of each regular pyramid. Round to the nearest tenth if necessary.

1.



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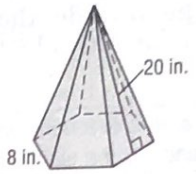

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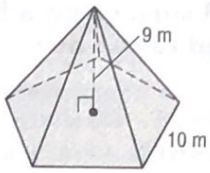
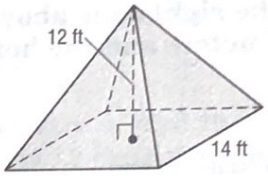
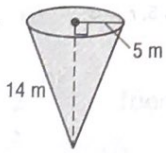


4.



Find the lateral area and surface area of each cone. Round to the nearest tenth.

5.



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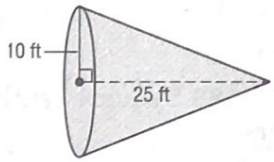

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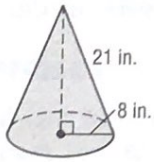

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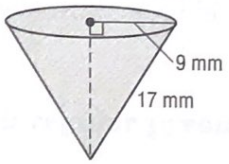


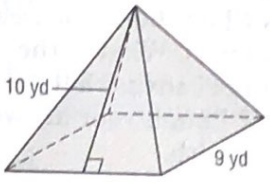
NAME _____ DATE _____ PERIOD _____

12-3 Practice

Surface Areas of Pyramids and Cones

Find the lateral area and surface area of each regular pyramid. Round to the nearest tenth if necessary.

1.



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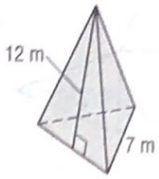
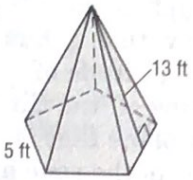


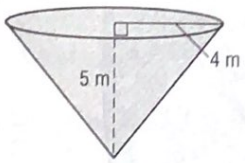
3.



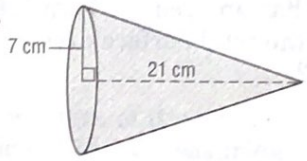
4.

Find the lateral area and surface area of each cone. Round to the nearest tenth if necessary.

5.



6.



7. Find the surface area of a cone if the height is 14 centimeters and the slant height is 16.4 centimeters.

8. Find the surface area of a cone if the height is 12 inches and the diameter is 27 inches.

9. **GAZEBOS** The roof of a gazebo is a regular octagonal pyramid. If the base of the pyramid has sides of 0.5 meter and the slant height of the roof is 1.9 meters, find the area of the roof.

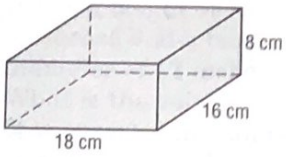
10. **HATS** Cuong bought a conical hat on a recent trip to central Vietnam. The basic frame of the hat is 16 hoops of bamboo that gradually diminish in size. The hat is covered in palm leaves. If the hat has a diameter of 50 centimeters and a slant height of 32 centimeters, what is the lateral area of the conical hat?

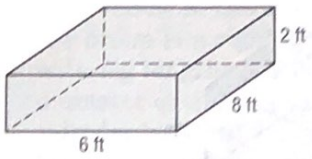
NAME _____ DATE _____ PERIOD _____

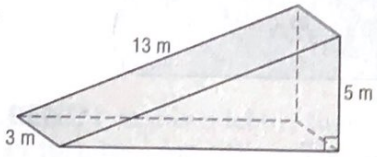
12-4 Skills Practice

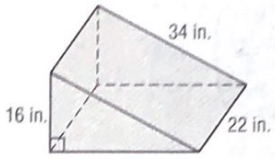
Volumes of Prisms and Cylinders

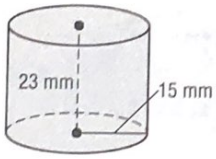
Find the volume of each prism or cylinder. Round to the nearest tenth if necessary.

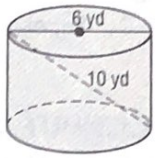
1. 

2. 

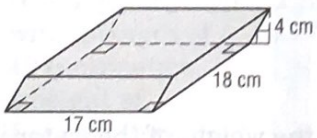
3. 

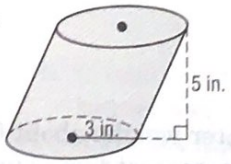
4. 

5. 

6. 

Find the volume of each oblique prism or cylinder. Round to the nearest tenth if necessary.

7. 

8. 

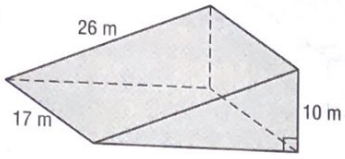
NAME _____ DATE _____ PERIOD _____

12-4 Practice

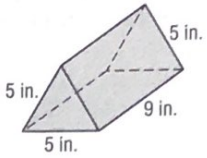
Volumes of Prisms and Cylinders

Find the volume of each prism or cylinder. Round to the nearest tenth if necessary.

1.



2.



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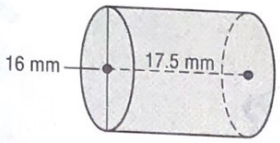

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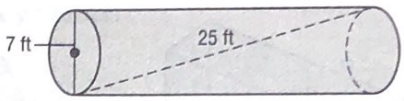
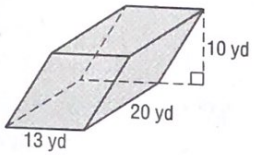
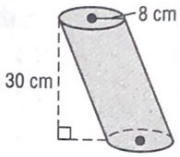


5.



6.



7. AQUARIUM Mr. Gutierrez purchased a cylindrical aquarium for his office. The aquarium has a height of $25\frac{1}{2}$ inches and a radius of 21 inches.

a. What is the volume of the aquarium in cubic feet?

b. If there are 7.48 gallons in a cubic foot, how many gallons of water does the aquarium hold?

c. If a cubic foot of water weighs about 62.4 pounds, what is the weight of the water in the aquarium to the nearest five pounds?

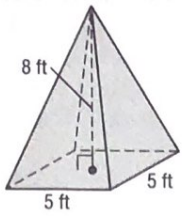
NAME _____ DATE _____ PERIOD _____

12-5 Skills Practice

Volumes of Pyramids and Cones

Find the volume of each pyramid or cone. Round to the nearest tenth if necessary.

1.



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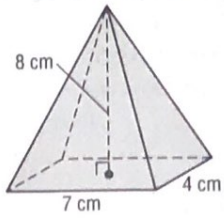
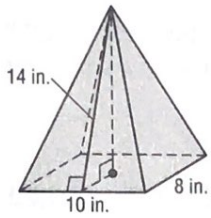


3.



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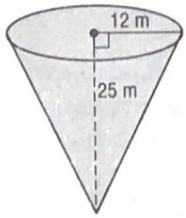
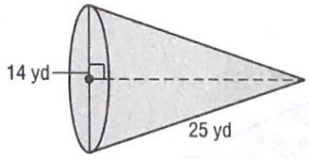


5.



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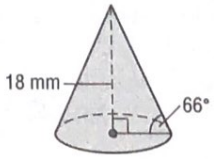
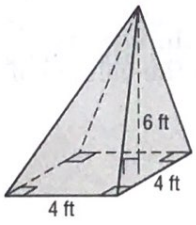
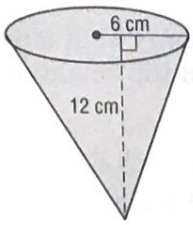


Find the volume of each oblique pyramid or cone. Round to the nearest tenth if necessary.

7.



8.



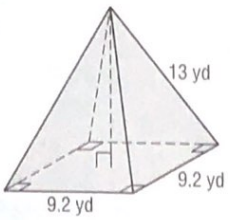
NAME _____ DATE _____ PERIOD _____

12-5 Practice

Volumes of Pyramids and Cones

Find the volume of each pyramid or cone. Round to the nearest tenth if necessary.

1.



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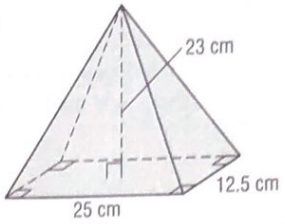

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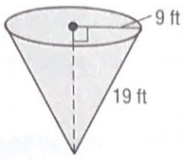

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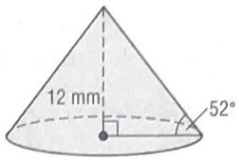
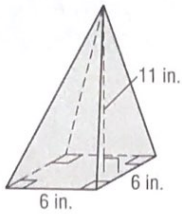


5.



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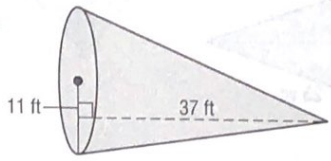


7. **CONSTRUCTION** Mr. Ganty built a conical storage shed. The base of the shed is 4 meters in diameter and the height of the shed is 3.8 meters. What is the volume of the shed?

8. **HISTORY** The start of the pyramid age began with King Zoser's pyramid, erected in the 27th century B.C. In its original state, it stood 62 meters high with a rectangular base that measured 140 meters by 118 meters. Find the volume of the original pyramid.

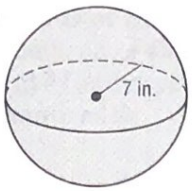
NAME _____ DATE _____ PERIOD _____

12-6 Skills Practice

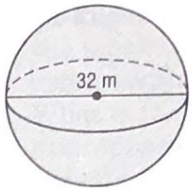
Surface Areas and Volumes of Spheres

Find the surface area of each sphere or hemisphere. Round to the nearest tenth.

1.



2.

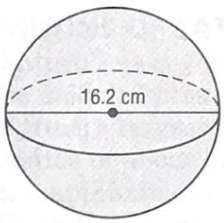


3. hemisphere: radius of great circle = 8 yd

4. sphere: area of great circle $\approx$ 28.6 in^2

Find the volume of each sphere or hemisphere. Round to the nearest tenth.

5.



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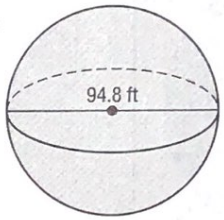


7. hemisphere: diameter = 48 yd

8. sphere: circumference of a great circle $\approx$ 26 m

9. sphere: diameter = 10 in.

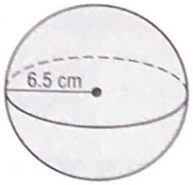
NAME _____ DATE _____ PERIOD _____

12-6 Practice

Surface Areas and Volumes of Spheres

Find the surface area of each sphere or hemisphere. Round to the nearest tenth.

1.



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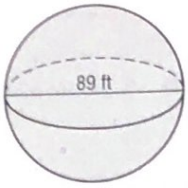
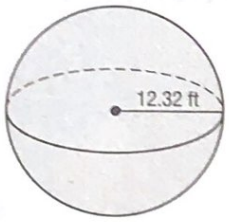


3. hemisphere: radius of great circle = 8.4 in.

4. sphere: area of great circle ≈ 29.8 m^2

Find the volume of each sphere or hemisphere. Round to the nearest tenth.

5.



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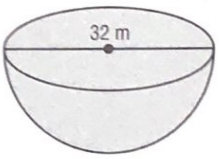


7. hemisphere: diameter = 18 mm

8. sphere: circumference ≈ 36 yd

9. sphere: radius = 12.4 in.

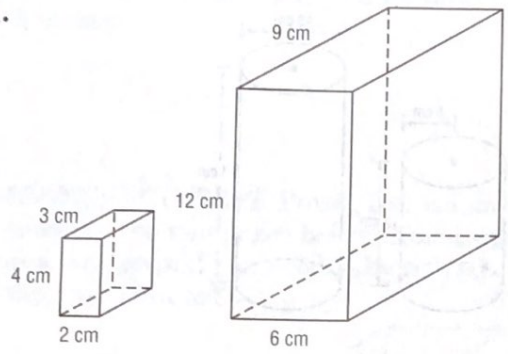
NAME _____ DATE _____ PERIOD _____

12-8 Skills Practice

Congruent and Similar Solids

Determine whether each pair of solids is *similar*, *congruent*, or *neither*. If the solids are similar, state the scale factor.

1.



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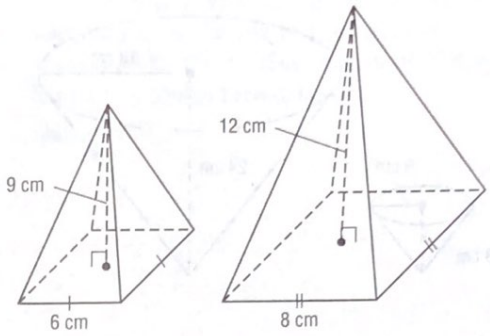
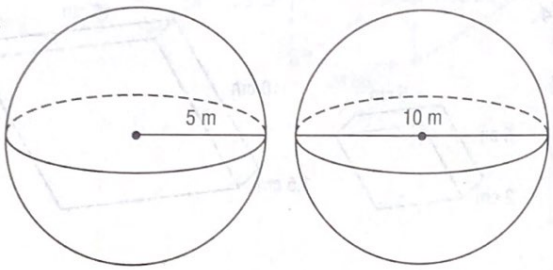
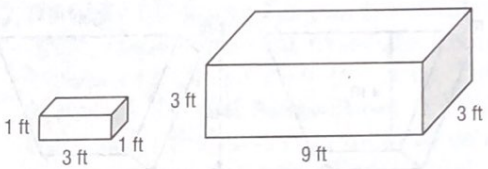


3.



4.



5. Two similar pyramids have heights of 4 inches and 7 inches What is the ratio of the volume of the small pyramid to the volume of the large pyramid?

6. Two similar cylinders have surface areas of 40π square feet and 90π square feet. What is the ratio of the height of the large cylinder to the height of the small cylinder?

7. COOKING Two stockpots are similar cylinders. The smaller stockpot has a height of 10 inches and a radius of 2.5 inches. The larger stockpot has a height of 16 inches. What is the volume of the larger stockpot? Round to the nearest tenth.

Lesson 12-8

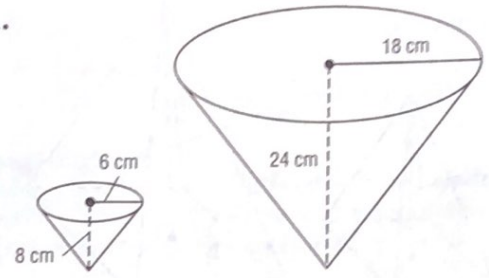
NAME _____ DATE _____ PERIOD _____

12-8 Practice

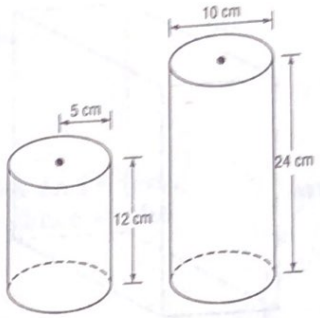
Congruent and Similar Solids

Determine whether the pair of solids is *similar*, *congruent*, or *neither*. If the solids are similar, state the scale factor.

1.



2.



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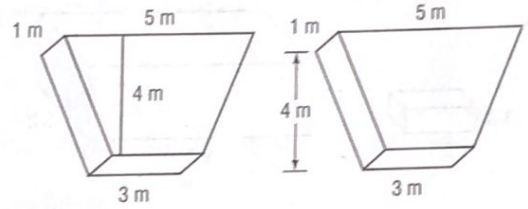

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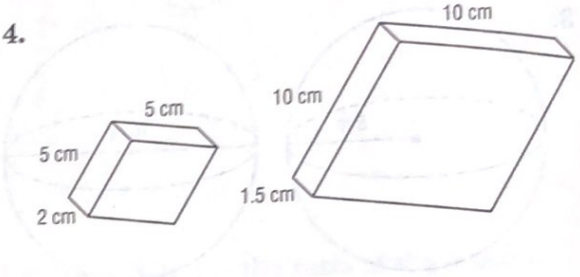

5. Two cubes have surface areas of 72 square feet and 98 square feet. What is the ratio of the volume of the small cube to the volume of the large cube?

6. Two similar ice cream cones are made of a half sphere on top and a cone on bottom. They have radii of 1 inch and 1.75 inches respectively. What is the ratio of the volume of the small ice cream cone to the volume of the large ice cream cone? Round to the nearest tenth.

7. ARCITHECTURE Architects make scale models of buildings to present their ideas to clients. If an architect wants to make a 1:50 scale model of a 4000 square foot house, how many square feet will the model have?