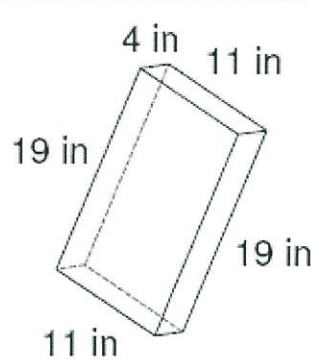


Name: Answer Key Date: _____

Volume Review

Find the volume of each figure. Round your answers to the nearest tenth, if necessary.

1.

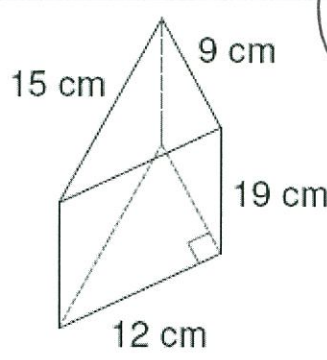


4 in 11 in
19 in 19 in
11 in

$$4 \cdot 11 \cdot 19 =$$

836 in³

2.

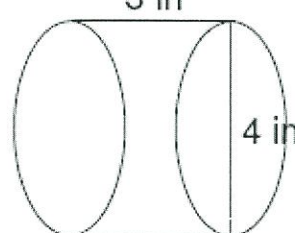


15 cm 9 cm
19 cm
12 cm

$$\left(\frac{9 \cdot 12}{2}\right) \cdot 19 =$$

1026 cm³

3.

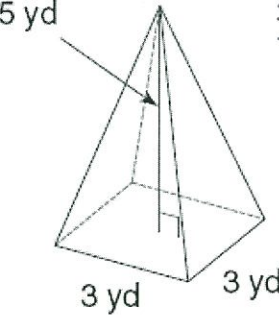


3 in
4 in

$$\pi(2)^2 \cdot 3 =$$

37.7 in³

4.

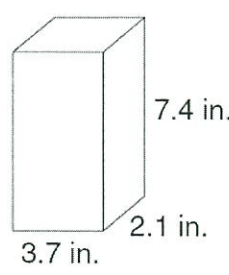


5 yd
3 yd 3 yd

$$\frac{3^2 \cdot 5}{3} =$$

15 yd³

5.

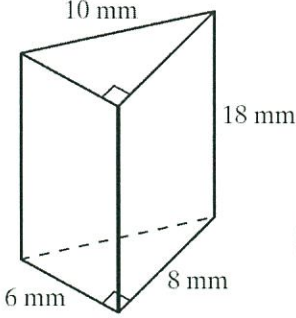


7.4 in.
2.1 in.
3.7 in.

$$3.7 \cdot 2.1 \cdot 7.4 =$$

57.5 in³

6.

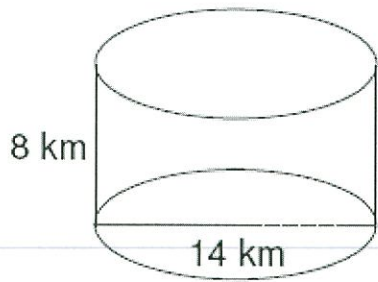


10 mm
18 mm
6 mm 8 mm

$$\left(\frac{6 \cdot 8}{2}\right) \cdot 18 =$$

432 mm³

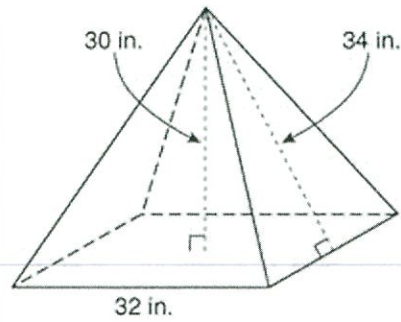
7.



$$\pi(7)^2 \cdot 8 =$$

$$1230.9 \text{ km}^3$$

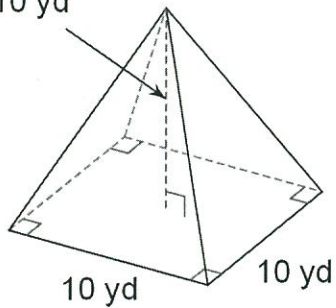
8.



$$\frac{32^2 \cdot 30}{3} = 10240 \text{ in}^3$$

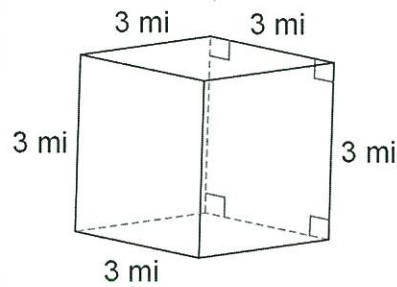
9.

10 yd



$$\frac{10^2 \cdot 10}{3} = 333.3 \text{ yd}^3$$

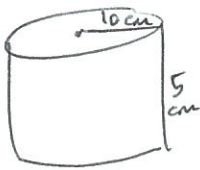
10.



$$3^3 = 27 \text{ m}^3$$

11. A cylindrical container with a radius of 10 cm and a height of 5 cm is filled with water. If the total mass of the filled container is 2 kg, what is the mass of the empty container?

Volume



$$\pi(10)^2 \cdot 5 = 1570 \text{ cm}^3$$

12. Find the height of a square pyramid that has a volume of 873.18 m³ and a base length of 12.6 m.

$$3 \cdot 873.18 = \frac{12.6^2 \cdot h}{3} \cdot 3$$

$$\frac{2619.5}{158.8} = \frac{158.8 h}{158.8}$$

$$h = 16.5 \text{ m}$$

13. Mr. Bean needs to ship a large order of coffee mugs. Each mug is packed in a cube box that is 6 inches on each side. His large shipping box is 3 ft. x 3 ft. x 2 ft. How many mugs can he fit in the large box?

$$36 \text{ in} \times 36 \text{ in} \times 24 \text{ in}$$

$$V_{\text{large}} = 36 \cdot 36 \cdot 24 = 31104 \text{ in}^3$$

$$V_{\text{small}} = 6 \cdot 6 \cdot 6 = 216 \text{ in}^3$$

$$\frac{31104}{216} = 144 \text{ mugs}$$

14. A rectangular prism pool has dimensions of 25 feet by 15 feet and is 4 feet deep. If water costs \$0.03 per cubic feet, how much will it cost to fill the pool?

$$V = 25 \cdot 15 \cdot 4 = 1500 \text{ ft}^3$$

$$1500 \cdot 0.03 = \$45.00$$

15. Ben wants to buy enough potting soil to fill a window box that is 42 inches long, 8 inches wide and 6 inches high. If one bag of potting soil contains 576 cubic inches, how many bags should he buy?

$$V = 42 \cdot 8 \cdot 6 = 2016$$

$$\frac{2016}{576} = 3.5$$

4 bags

16. A can of lemonade concentrate has a diameter of 3 inches and a height of 4.5 inches. If the concentrate dissolves in 3.5 cans of water, how much water must be added?

$$\pi (1.5)^2 \cdot 4.5 =$$

$$31.8 \cdot 3.5 =$$

$$111.3 \text{ in}^3$$

↑
OK!
(don't cross out)

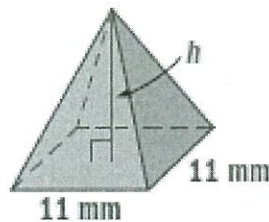
17. A marble monument is in the shape of a square pyramid. The side length of the base is 5 feet. The height of the pyramid is 5 feet. Find the volume of the pyramid. Use the fact that 1 cubic foot of marble weighs about 170 pounds. To the nearest pound, how much does the monument weigh?

$$\frac{5^2 \cdot 5}{3} = 41.7 \text{ ft}^3$$

$$41.7 \cdot 170 = 7089 \text{ pounds}$$

18. Find the height of the pyramid.

$$V = 1452 \text{ mm}^3$$



$$3 \cdot 1452 = \frac{11^2 \cdot h}{3}$$

$$\frac{4356}{121} = \frac{121 \cdot h}{121}$$

$$h = 36 \text{ mm}$$