

Name _____
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Date _____
Geometry



Volume with Algebra

1. A brick in the shape of a rectangular prism has a base that measures 3 inches by 5 inches. If the volume of the brick is 90 cubic inches, what is the height of the brick?

- 1) 15
- 2) 6
- 3) 8
- 4) 11

2. A right circular cylinder has a volume of 1,000 cubic inches and a height of 8 inches. What is the radius of the cylinder to the *nearest tenth of an inch*?

- 1) 6.3
- 2) 11.2
- 3) 19.8
- 4) 39.8

3. The base of a pyramid is a rectangle with a width of 6 cm and a length of 8 cm. Find, in centimeters, the height of the pyramid if the volume is 288 cm^3 .

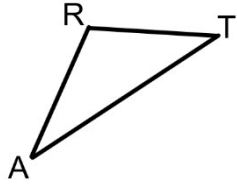
- 1) 6
- 2) 8
- 3) 18
- 4) 24

4. Find the radius of a sphere with a volume of 576π cubic inches. Find the answer to the nearest tenth of an inch.

- 1) 4.9
- 2) 15.1
- 3) 9.2
- 4) 7.6

5. The area of $\triangle ART$ is 48 square inches. If $\overline{AR} = 12$ and $\angle TAR = 26^\circ$, find $\overline{AT}$ to the nearest tenth of an inch.

- 1) 17.4
- 2) 18.2
- 3) 21.7
- 4) 24.9



6. The volume of a cylinder is $12,566.4 \text{ cm}^3$. The height of the cylinder is 8 cm. Find the radius of the cylinder to the *nearest tenth of a centimeter*.

- 1) 12.3
- 2) 22.4
- 3) 7.9
- 4) 501.8

7. The Parkside Packing Company needs a rectangular shipping box. The box must have a length of 11 inches and a width of 8 inches. Find, to the *nearest tenth of an inch*, the height of the box such that the volume is 800 cubic inches.

- 1) 9.1
- 2) 14.7
- 3) 42.1
- 4) 7.9

8. If the volume of a sphere is 36π , what is the radius of the sphere?

- 1) 3
- 2) 6
- 3) 12
- 4) 24

9. The volume of a sphere is approximately 44.6022 cubic centimeters. What is the radius of the sphere, to the *nearest tenth of a centimeter*?

- 1) 2.2
- 2) 3.3
- 3) 4.4
- 4) 4.7

10. An ice cream waffle cone can be modeled by a right circular cone with a base diameter of 6.6 centimeters and a volume of 54.45π cubic centimeters. What is the number of centimeters in the height of the waffle cone?

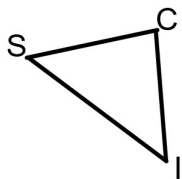
- 1) $3\frac{3}{4}$
- 2) 5
- 3) 15
- 4) $24\frac{3}{4}$

10. The Great Pyramid of Giza was constructed as a regular pyramid with a square base. It was built with an approximate volume of 2,592,276 cubic meters and a height of 146.5 meters. What was the length of one side of its base, to the *nearest meter*?

- 1) 73
- 2) 77
- 3) 133
- 4) 230

11. Find the length of the radius of a cylinder to the *nearest tenth* if it has a volume of 60 cm^3 and a height of 10 *cm*.

12. The area of $\triangle SCI$ is 124 square centimeters. If $\overline{SC} = 25$ and $\angle CSI = 51^\circ$, find $\overline{SI}$ to the nearest tenth of a centimeter.



13. The pyramid shown below has a square base, a height of 7, and a volume of 84. What is the length of the side of the base?

