

Name: \_\_\_\_\_

Class/Period: \_\_\_\_\_

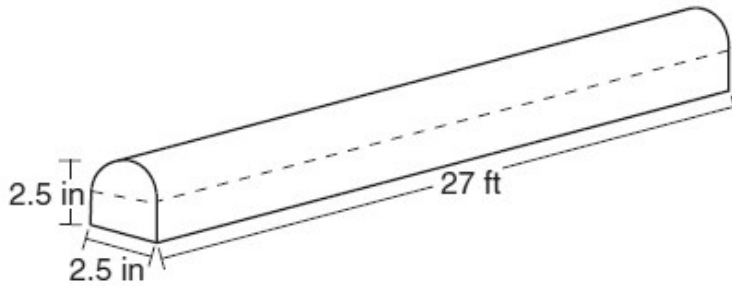
Assignment: Math 8 Volume Unit Quiz 4/21

Teacher: Zigrossi

- 1 A soup can is in the shape of a cylinder. The can has a volume of  $342 \text{ cm}^3$  and a diameter of 6 cm. Express the height of the can in terms of  $\pi$ .

- 1  $12\pi \text{ cm}$
- 2  $38\pi \text{ cm}$
- 3  $12 \text{ cm}$
- 4  $\frac{38}{\pi} \text{ cm}$

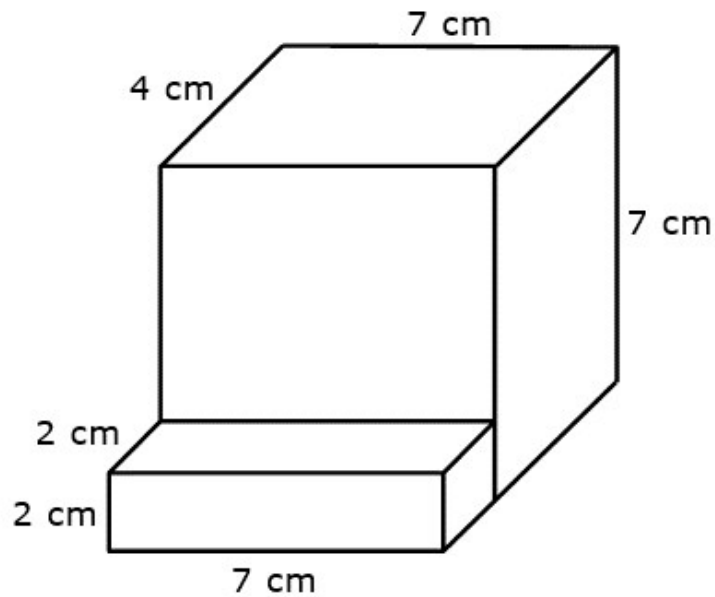
- 2 A fabricator is hired to make a 27-foot-long solid metal railing for the stairs at the local library. The railing is modeled by the diagram below. The railing is 2.5 inches high and 2.5 inches wide and is comprised of a rectangular prism and a half-cylinder.



How much metal, to the *nearest cubic inch*, will the railing contain?

- 1 151
- 2 795
- 3 1808
- 4 2025

3 What is the volume of the figure, in cubic centimeters?



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Answer: The volume of the figure is  cubic centimeters.

4 A cone has a volume of 374 cubic inches and a height of 4 inches. The volume of a cone can be found by using the formula  $V = \frac{1}{3}\pi r^2 h$ , where  $r$  is the radius of the base of the cone and  $h$  is the height of the cone. What is the *approximate* diameter of the cone?

- 1 9.4 inches
- 2 12.7 inches
- 3 16.1 inches
- 4 18.9 inches

5 A cone has a volume of  $108\pi$  and a base diameter of 12. What is the height of the cone?

- 1 27
- 2 9
- 3 3
- 4 4

- 6 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
- 7 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
- 8 The volume of a cylindrical can is  $32\pi$  cubic inches. If the height of the can is 2 inches, what is its radius, in inches?
- 1 8
  - 2 2
  - 3 16
  - 4 4