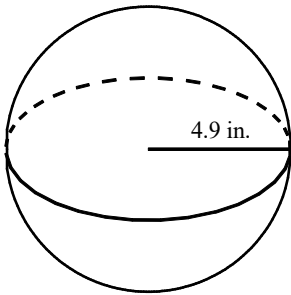


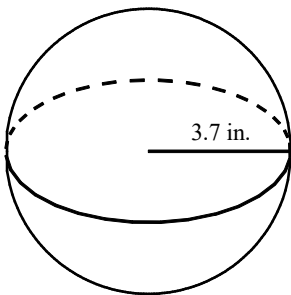
NAME: _____

1. Find the volume of the sphere. (Use 3.14 for π .)



- [A] 277.063 in.³ [B] 100.522 in.³ [C] 492.557 in.³ [D] 369.418 in.³

2. Find the volume of the sphere. (Use 3.14 for π .)



- [A] 212.067 in.³ [B] 159.05 in.³ [C] 57.3155 in.³ [D] 119.288 in.³

3. The inside of an ice cream cone has radius 4 cm and height 8 cm. Assuming that a half scoop of ice cream is in the shape of a hemisphere, and that it fits perfectly on top of the cone (same radius), find the total volume of ice cream. Use 3.14 for π and round your answer to the nearest tenth.

- [A] 267.9 cm³ [B] 291.2 cm³ [C] 401.9 cm³ [D] 535.9 cm³

4. The inside of an ice cream cone has radius 5 cm and height 6 cm. Assuming that a half scoop of ice cream is in the shape of a hemisphere, and that it fits perfectly on top of the cone (same radius), find the total volume of ice cream. Use 3.14 for π and round your answer to the nearest tenth.

- [A] 418.7 cm³ [B] 680.3 cm³ [C] 442.0 cm³ [D] 732.7 cm³

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5. Compare the quantity in Column A with the quantity in Column B.

<u>Column A</u>	<u>Column B</u>
the volume of a cylinder with radius 2 and height 2	the volume of a sphere with radius 2

- [A] The quantity in Column A is greater. [B] The quantity in Column B is greater.
[C] The two quantities are equal.
[D] The relationship cannot be determined on the basis of the information supplied.

6. Spaceship Earth at Epcot Center in Florida is a 180 ft geosphere. Estimate its volume by assuming it is a sphere with diameter 180 ft.
7. A semicircle has a diameter with endpoints (0, 0) and (0, 6). Compare the volume of the solid created by rotating the semicircle 360° about the line $y = 3$ to that of the solid created by rotating the semicircle 360° about the y -axis.
8. Give the dimensions of a cylinder and sphere such that the volume of the sphere is twice that of the cylinder.
9. A satellite is in the shape of a cylinder with two hemispheres fitted snugly on either end. If the diameter of the cylinder is 5 m and its length is 13 m, find the volume of the satellite. Express the answer in terms of π .
10. A satellite is in the shape of a cylinder with two hemispheres fitted snugly on either end. If the diameter of the cylinder is 2 m and its length is 12 m, find the volume of the satellite. Express the answer in terms of π .

[1] C

[2] A

[3] A

[4] A

[5] B

[6] about 3 million ft³

[7] The solid created by rotating about the line $y = 3$ is a hemisphere and has half the volume of the sphere created by rotating about the y -axis.

[8] Check students' work. Sample: cylinder - $r = 3$, $h = 2$ and sphere - $r = 3$

[9] $102.1\pi \text{ m}^3$

[10] $13.3\pi \text{ m}^3$