

Chapter 2 Test

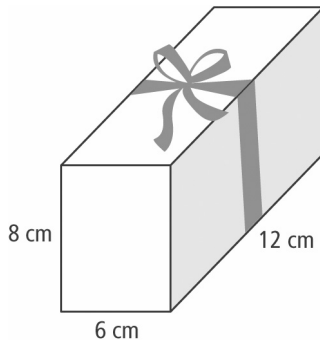
Multiple Choice

For #1 to 6, select the best answer.

1. What are the most appropriate SI and imperial units for expressing the area of a banquet hall floor?

A m^2 and ft^2
 B m^2 and yd^2
 C km^2 and ft^2
 D km^2 and mi^2

2. What is the minimum amount of wrapping you would need to cover the gift box shown here?

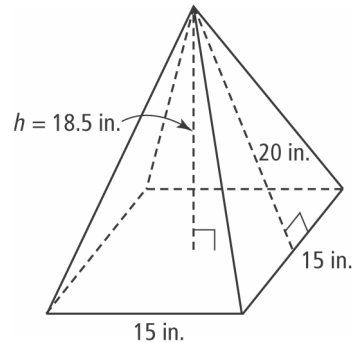


A 216 cm^2
 B 408 cm^2
 C 432 cm^2
 D 576 cm^2

3. A rectangular pyramid has a base 3 cm by 6 cm and a height of 9 cm. What are the dimensions of a rectangular prism with an equivalent volume?

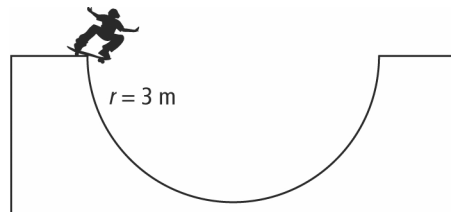
A 1 cm by 2 cm by 3 cm
 B 2 cm by 4 cm by 6 cm
 C 2 cm by 3 cm by 9 cm
 D 3 cm by 6 cm by 9 cm

4. Calculate the surface area of the pyramid to the nearest square inch.



A 1500 in.^2
 B 1387 in.^2
 C 825 in.^2
 D 780 in.^2

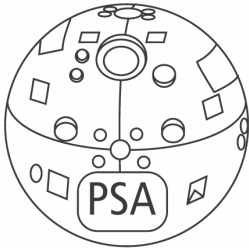
5. Skateboarders use half pipes, which are shaped like half cylinders.



To the nearest square metre, what is the curved surface area of the half pipe if it is 7 m deep?

A 33 m^2
 B 66 m^2
 C 132 m^2
 D 160 m^2

6. Scientists at NASA have built a robot called Personal Satellite Assistant or PSA to assist astronauts on board a spacecraft. PSA is in the shape of a sphere and has a diameter of 12 in. To make it more efficient, NASA wants to reduce its diameter to 8 in. To the nearest cubic inch, the difference in volume would be



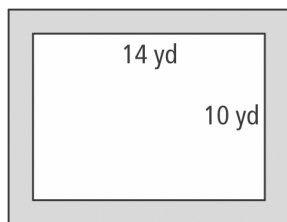
- A 996 in.³
 B 905 in.³
 C 771 in.³
 D 637 in.³

Short Answer

7. A cone has a height of 8 m, a slant height of 9.4 m, and a radius of 5 m.
- Determine the surface area of the cone, to the nearest tenth of a square metre.
 - Determine the volume of the cone, to the nearest tenth of a cubic metre.
8. What is the radius of a sphere with surface area of 804.2 cm²?

Extended Response

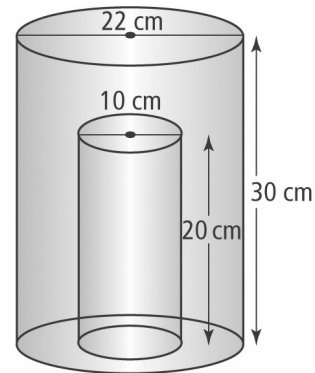
9. The shaded area represents a 2-yd wide trench dug by a contractor at a building site. If the contractor removed 182 yd³ of soil, how deep is the trench?



10. Two cones have the same height. Cone A has a radius of 4 cm and a volume of 92.15 cm³. Cone B has a radius of 7 cm.

- What is the height of the cones?
- What is the volume of Cone B?
- If the radius of Cone A is increased by 3 cm, what is the volume relationship between the new cone and Cone B?

11. A storage container for radioactive material has the dimensions shown below.



- To the nearest cubic centimetre, what is the volume of the inside storage compartment?
- The outside of the storage container needs to be sealed with a protective coating. Excluding the bottom, what is the area that needs to be coated, to the nearest square centimetre?