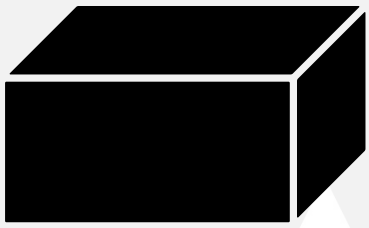
47. How to use formulas to calculate the volume of 3D shapes

Scenario Questions: Round answers to 2 decimal places, use π = 3.14

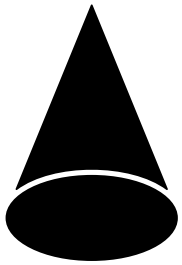
1. Sarah wants to fill her rectangular fish tank with water. If the tank has a length of 60 cm, a width of 40 cm, and a height of 30 cm, what is the volume of water that can fit in the tank?

(Volume = length x width x height)



2. A ice cream shop sells ice cream cones. If the cone has a radius of 5 cm and a height of 12 cm, what is the volume of ice cream that can fit in the cone?

(Volume = (1/3) x π x radius^2 x height)



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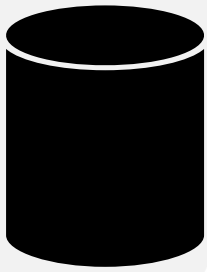
Scenario Questions: Round answers to 2 decimal places, use π = 3.14

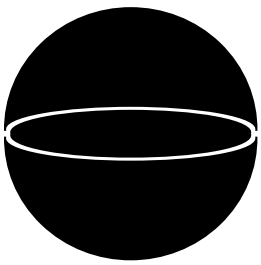
3. A soft drink comes in a cylindrical can. If the can has a radius of 4 cm and a height of 15 cm, what is the volume of the soft drink?

Volume = π x radius^2 x height)



4. Josh is playing with a bouncy ball, which is in the shape of a sphere. If the radius of the ball is 7 cm, what is the volume of the ball?

(Volume formula: V = 4/3 × π × radius^3)

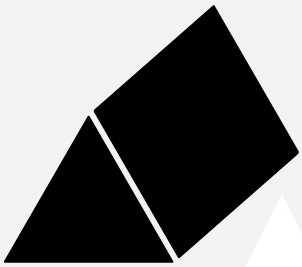


47. How to use formulas to calculate the volume of 3D shapes

Scenario Questions: Round answers to 2 decimal places, use π = 3.14

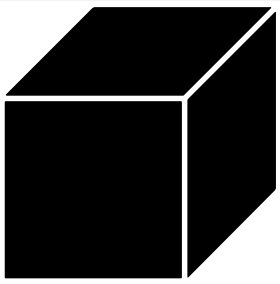
5. A prism-shaped pencil holder has a triangular base with an area of 16 cm^2 and a height of 10 cm. What is the volume of the pencil holder?

(Volume formula: V = triangle area × height)



6. Anna has a small cube-shaped jewelry box. If each side of the box measures 5 cm, what is the volume of the box?

(Volume formula: V = side length^3)



47. How to use formulas to calculate the volume of 3D shapes

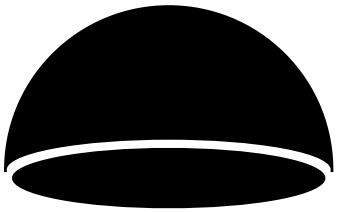
Scenario Questions: Round answers to 2 decimal places, use π = 3.14

7. A pyramid-shaped tea bag holder has a square base with an area of 9 cm^2 and a height of 6 cm. What is the volume of the tea bag holder?

(Volume formula: V = 1/3 × base area × height)

8. A candy mould creates half-sphere-shaped chocolates. If the radius of the mould is 2 cm, what is the volume of one chocolate?

(Volume formula: V = (2/3) x π x $radius^3$)

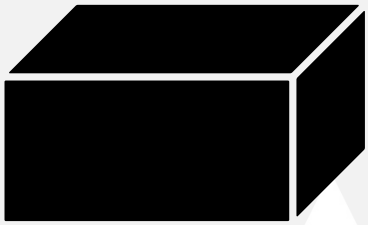


47. How to use formulas to calculate the volume of 3D shapes

Scenario Questions: Round answers to 2 decimal places, use π = 3.14

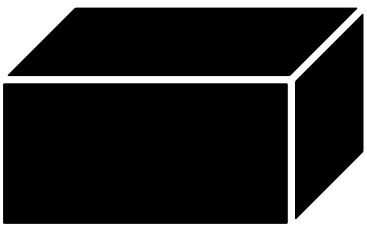
9. Te is building a box, he needs the volume of the box to be 2,400 cm^3, he also needs the width to be 20cm and the length to be 40 cm. How high does he need to make the box?

(Volume = length × width × height)



10. Gordon is making a cake and has made 4000cm^3 of batter. He has a tin that is 8 cm, by 20cm by 5cm. How many times can he fill the cake tin?

(Volume formula: V = length × width × height)

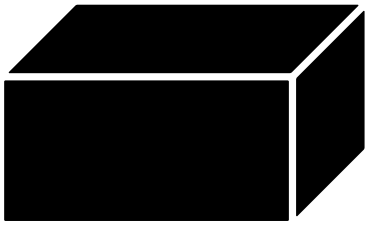


47. How to use formulas to calculate the volume of 3D shapes

Scenario Questions: Answers

1. Sarah wants to fill her rectangular fish tank with water. If the tank has a length of 60 cm, a width of 40 cm, and a height of 30 cm, what is the volume of water that can fit in the tank?

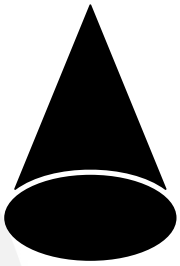
(Volume = length x width x height)



1. The volume of the fish tank is 72,000cm³ (72 litres) .

2. A ice cream shop sells ice cream cones. If the cone has a radius of 5 cm and a height of 12 cm, what is the volume of ice cream that can fit in the cone?

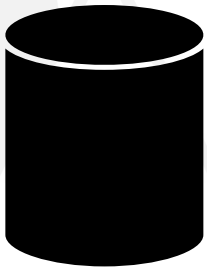
(Volume = (1/3) x π x radius² x height)



2. The volume of the cone is approximately 314 cubic centimeters (cm³).

3. A soft drink comes in a cylindrical can. If the can has a radius of 4 cm and a height of 15 cm, what is the volume of the soft drink?

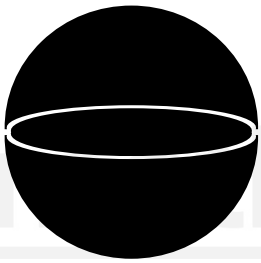
Volume = π x radius² x height)



3. The volume of the cylinder is approximately 753.6 cubic centimeters (m³).

4. Josh is playing with a bouncy ball, which is in the shape of a sphere. If the radius of the ball is 7 cm, what is the volume of the ball?

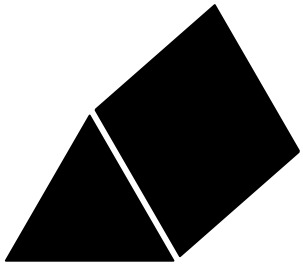
(Volume formula: V = 4/3 × π × radius³)



4. The volume of the sphere is approximately 1436.03 cubic centimeters (cm³).

5. A prism-shaped pencil holder has a triangular base with an area of 16 cm² and a height of 10 cm. What is the volume of the pencil holder?

(Volume formula: V = triangle area × height)



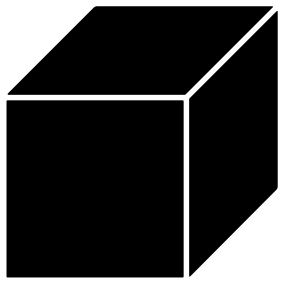
5. The volume of the triangular prism is 160 cubic centimeters (cm³).

47. How to use formulas to calculate the volume of 3D shapes

Scenario Questions: Answers

6. Anna has a small cube-shaped jewelry box. If each side of the box measures 5 cm, what is the volume of the box?

(Volume formula: V = side length^3)



6. The volume of the cube is 125 cubic centimeters (cm^3).

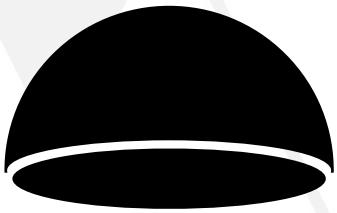
7. A pyramid-shaped tea bag holder has a square base with an area of 9 cm^2 and a height of 6 cm. What is the volume of the tea bag holder?

(Volume formula: V = 1/3 × base area × height)

7. The volume of the pyramid is 18 cubic centimeters (m^3).

8. A candy mould creates half-sphere-shaped chocolates. If the radius of the mould is 2 cm, what is the volume of one chocolate?

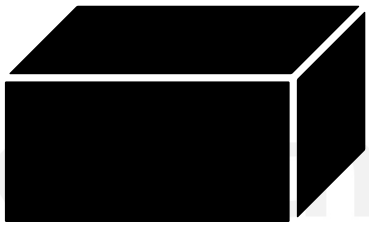
(Volume formula: V = (2/3) x π x radius^3)



8. The volume of the hemisphere is approximately 16.75 cubic centimeters (mm^3).

9. Te is building a box, he needs the volume of the box to be 2,400 cm^3, he also needs the width to be 20cm and the length to be 40 cm. How high does he need to make the box?

(Volume = length × width × height)



9. The hieight of the box should be 3 centimeters (cm).

10. Gordon is making a cake and has made 4000cm^3 of batter. He has a tin that is 8 cm, by 20cm by 5cm. How many times can he fill the cake tin?

(Volume formula: V = length × width × height)

10. Gordon can make 5 cakes.