

1. Question: A rectangular prism has a volume of 320 cubic units. If the length is three times the width and the height is four times the width, what are the dimensions of the prism?

Answer: Length = 24 units, Width = 8 units, Height = 32 units.

2. Question: A cylindrical tank with a radius of 5 meters is filled with water up to a height of 12 meters. Calculate the total volume of water in the tank.

Answer: The total volume of water in the tank is approximately 942 cubic meters.

3. Question: A cube has a surface area of 150 square units. Calculate the volume of the cube.

Answer: The volume of the cube is 125 cubic units.

4. Question: A spherical balloon has a volume of 7236 cubic centimeters. Calculate its surface area to the nearest square centimeter.

Answer: The surface area of the balloon is approximately 2095 square centimeters.

5. Question: A pyramid has a square base with sides of 10 units each. If the height of the pyramid is 8 units, calculate the total surface area of the pyramid.

Answer: The total surface area of the pyramid is 360 square units.

6. Question: A cone-shaped container with a radius of 6 centimeters and a height of 10 centimeters is filled with ice cream. Calculate the total volume of ice cream in the container.

Answer: The total volume of ice cream in the container is approximately 376.99 cubic centimeters.

7. Question: A right circular cylinder has a curved surface area of 100 square centimeters. If the height of the cylinder is 10 centimeters, calculate the base radius of the cylinder.

Answer: The base radius of the cylinder is approximately 2.83 centimeters.

8. Question: An open rectangular box is made by removing congruent squares from the corners of a 20 cm by 12 cm rectangular sheet. If the squares' side length is 4 cm, calculate the total surface area of the box.

Answer: The total surface area of the box is 552 square centimeters.

9. Question: A conical funnel has a slant height of 15 centimeters and a lateral surface area of 150 square centimeters. Calculate the base radius of the funnel.

Answer: The base radius of the funnel is approximately 5 centimeters.

10. Question: A sphere and a cube have the same volume. If the cube has a side length of 6 units, calculate the radius of the sphere.

Answer: The radius of the sphere is approximately 4.62 units.