Volume of Prisms/Cylinders and Introduction to Pythagoras

Year 8 · Geometry · y8-geo-area-triangle

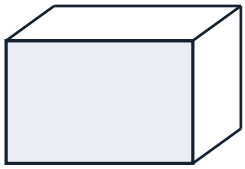
Name: _____ Date: _____

Class: _____ Score: _____ / _____

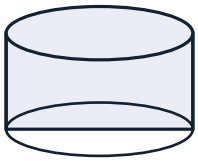
Instructions
Answer every question in Practice. Try the Challenge section once Practice is complete. 10 questions in total.

Practice

1. A triangular prism has a cross-sectional area of 12 cm² and a length of 9 cm. Find its volume.

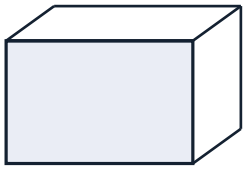


2. A cylinder has a radius of 4 cm and a height of 10 cm. Using pi ~ 3.14, find its volume to the nearest whole number.

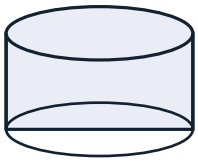


3. A right-angled triangle has legs (the two shorter sides) of 6 cm and 8 cm. Find the length of the hypotenuse.

4. A triangular prism has a triangular cross-section with base 8 cm and height 5 cm, and a length of 12 cm. Find its volume.



5. A cylindrical water tank has a radius of 3 m and a height of 5 m. Using pi ~ 3.14, find its volume to 1 decimal place.



6. Volume of a prism = cross-sectional area × length, not perimeter × length. A prism has cross-sectional area 15 cm² and length 7 cm. Find its volume.

7. Volume of a cylinder = pi × radius² × height, using the radius, not the diameter. A cylinder has a diameter of 10 cm and a height of 6 cm. Using pi ~ 3.14, find its volume.

8. For a right-angled triangle, the hypotenuse squared equals the sum of the squares of the other two sides, not their sum directly. A right-angled triangle has legs 5 cm and 12 cm. Find the hypotenuse.

Challenge

1. A prism has a right-angled triangular cross-section with legs 6 cm and 8 cm, and a length of 15 cm. Find the volume.

2. A cylinder has a volume of 785 cm³ and a height of 10 cm. Using pi ~ 3.14, find its radius.