

Volume of Composite Solids

Word Problems

Name		Score	
------	--	-------	--

1	Maria has a cylinder with a height of 10 cm and a radius of 3 cm. She places a cone with the same base radius and a height of 4 cm on top of the cylinder. What is the total volume of the composite solid?	
2	John builds a storage bin by attaching a hemisphere with a radius of 5 m on top of a rectangular prism measuring 8 m by 6 m by 10 m. What is the volume of the composite solid?	
3	A water tower is shaped like a cylinder with a height of 15 m and a radius of 5 m. On top is a hemisphere with the same radius. What is the total volume of the tower?	
4	A silo is made of a cylindrical base with a radius of 6 m and a height of 12 m, with a conical roof that has a height of 5 m. What is the total volume of the silo?	
5	Sarah has a composite toy consisting of a cube with side lengths of 4 cm and a hemisphere with a radius of 2 cm on top. What is the total volume of the toy?	
6	A swimming pool is shaped like a rectangular prism with dimensions 8 m by 6 m by 4 m, and a half-cylinder covers the top, with the same 6 m width and a radius of 3 m. What is the total volume of the pool?	
7	An aquarium is made of a rectangular prism that is 3 m long, 2 m wide, and 1.5 m tall, with a half-cylinder on top with a diameter of 2 m and a height of 1 m. What is the total volume of water it can hold?	
8	A cylindrical candle holder has a base cylinder with a height of 5 cm and a radius of 4 cm. A cone with the same radius and a height of 6 cm sits on top. What is the volume of the candle holder?	
9	A gift box has a rectangular base with dimensions 10 cm by 8 cm by 4 cm. A pyramid with a 10 cm by 8 cm base and a height of 6 cm is placed on top. What is the total volume of the box?	

10	A balloon decoration is made of a cylinder with a height of 20 cm and a radius of 5 cm. A half-sphere with the same radius is attached to the top. What is the volume of the entire decoration?	
11	A concrete block is shaped like a cube with side lengths of 2 m, and a half-cylinder with a radius of 1 m and a height of 4 m is attached to the top. What is the total volume of the block?	
12	A storage tank is made of a cylinder with a radius of 3 m and a height of 7 m. A cone with a height of 4 m is placed on top. What is the total volume of the tank?	
13	A metal rod is composed of a cylinder with a height of 10 cm and a radius of 2 cm, and a hemisphere with the same radius on each end. What is the total volume of the rod?	
14	A large planter consists of a rectangular box with dimensions 10 cm by 5 cm by 8 cm, and a half-cylinder with a radius of 5 cm and a length of 10 cm on top. What is the total volume of the planter?	
15	A rocket model consists of a cylinder with a height of 20 cm and a radius of 3 cm, topped with a cone with the same radius and a height of 6 cm. What is the total volume of the rocket?	
16	A punch bowl is formed from a hemisphere with a radius of 6 cm, sitting on top of a cylinder with the same radius and a height of 10 cm. What is the total volume of the punch bowl?	
17	A statue is composed of a cylindrical base with a radius of 4 m and a height of 8 m, with a rectangular block 6 m high, 5 m long, and 3 m wide on top. What is the total volume of the statue?	
18	A toy rocket is made of a cylinder with a radius of 2 cm and a height of 15 cm, topped with a cone with a height of 5 cm. What is the total volume of the toy rocket?	
19	A garden decoration is formed from a cone with a radius of 3 cm and a height of 9 cm placed on a hemisphere with the same radius. What is the total volume of the garden decoration?	
20	A water tank is shaped like a rectangular prism with a base of 4 m by 3 m and a height of 6 m. A half-cylinder with a radius of 2 m and a length of 4 m is attached on top. What is the total volume of the tank?	

Answer Key

1	320.44 cm ³	2	741.8 m ³
3	1439.9 m ³	4	1585.76 m ³
5	97.51 cm ³	6	305.1 m ³
7	13.57 m ³	8	421.17 cm ³
9	480 cm ³	10	1727.96 cm ³
11	16.57 m ³	12	260.16 m ³
13	180.91 cm ³	14	550 cm ³
15	648.9 cm ³	16	1695.6 cm ³
17	682 m ³	18	202.92 cm ³
19	159.57 cm ³	20	112 m ³