

Grade 8 - Volume of Cylinders, Cones and Spheres - Worksheet

Common Core 8.G.C.9 · maths-pdf.fr/en/

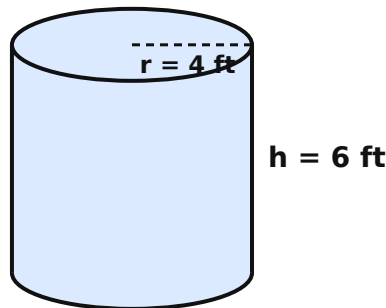
Name: _____ Class: _____ Date: ____/____/____

These 20 problems practice the volume of cylinders, cones and spheres and solving real-world volume problems (Common Core 8.G.C.9). Each problem has its own space for work, so print the page and write directly on it.

The problems start with direct skill checks and grow harder as you go. Later items find unknown dimensions and combine solids in real situations. Use the answer key afterwards to check every step.

Grade 8 · Common Core State Standards: **8.G.C.9**

Exercise 1 - Cylinder volume



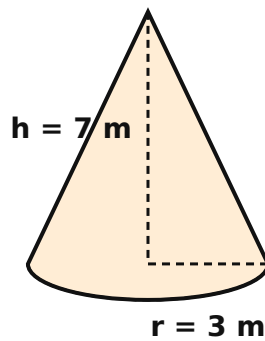
A barrel.

A barrel is a cylinder. Give its volume in terms of π .

Exercise 2 - Cylinder from a diameter

A cylinder has diameter 10 cm and height 7 cm. Find its volume to the nearest tenth. Use $\pi \approx 3.14$.

Exercise 3 - Cone volume



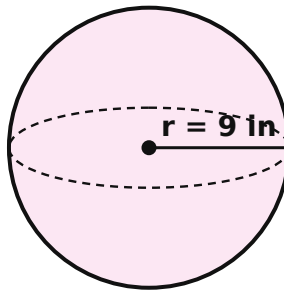
A cone.

A pile of gravel forms a cone. Give its volume in terms of π .

Exercise 4 - Cone from a diameter

A cone has diameter 8 in and height 9 in. Find its volume in terms of π and then to the nearest hundredth using 3.14.

Exercise 5 - Sphere volume



A globe.

A globe is a sphere. Give its volume in terms of π .

Exercise 6 - Sphere from a diameter

A sphere has diameter 12 inches. Find its volume in terms of π and with $\pi \approx 3.14$.

Exercise 7 - Find the height

A cylinder has volume 150π cubic centimeters and radius 5 cm. Find its height.

Exercise 8 - Find the cone height

A cone has volume 100π cubic inches and radius 5 inches. Find its height.

Exercise 9 - Find the radius of a sphere

A sphere has volume $\frac{256}{3}\pi$ cubic units. Find its radius.

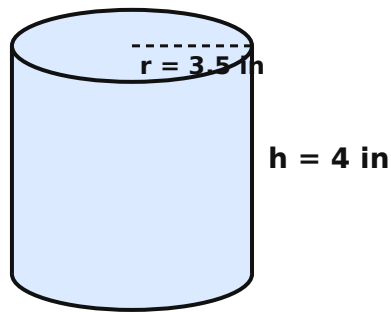
Exercise 10 - Cylinder and cone

A cylinder and a cone both have radius 4 and height 9. Find both volumes and compare them.

Exercise 11 - Hemisphere

Find the volume of a hemisphere with radius 6 in terms of π .

Exercise 12 - Soup can



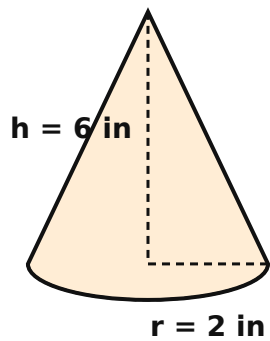
A soup can.

A can of soup has a diameter of 7 inches and a height of 4 inches. Find its volume to the nearest tenth with $\pi \approx 3.14$.

Exercise 13 - Water tank

A cylindrical water tank has radius 4 feet and height 10 feet. Find its volume in terms of π and to the nearest tenth with 3.14.

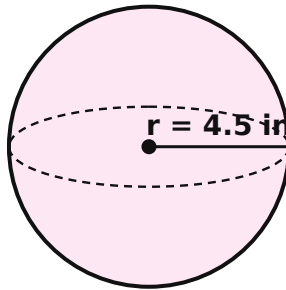
Exercise 14 - Ice cream



A cone.

An ice cream cone has radius 2 inches and height 6 inches. A scoop of ice cream is a sphere of radius 2 inches. Find the volume of the cone and the volume of the scoop in terms of π .

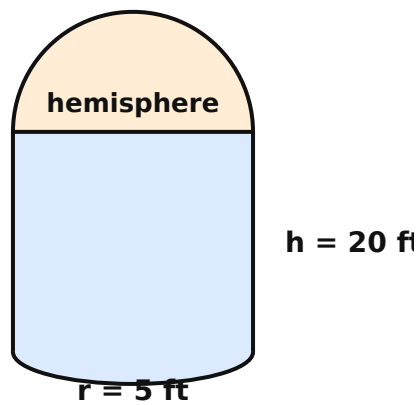
Exercise 15 - Soccer ball



A ball.

A soccer ball has radius 4.5 inches. Find its volume to the nearest tenth with $\pi \approx 3.14$.

Exercise 16 - Grain silo



Cylinder plus hemisphere.

A grain silo is a cylinder of radius 5 feet and height 20 feet topped by a hemisphere of radius 5 feet. Find its total volume in terms of π .

Exercise 17 - Traffic cone

A traffic cone has base radius 6 inches and height 18 inches. Find its volume with $\pi \approx 3.14$.

Exercise 18 - Swimming pool

A round kiddie pool has radius 6 feet and is 4 feet deep when full. How many cubic feet of water does it hold? Use 3.14.

Exercise 19 - Double the radius

Mei doubles the radius of a cylinder but keeps its height. How does the volume change? Use $r = 2$, $h = 5$ as an example.

Exercise 20 - Find the height with 3.14

A cylinder has radius 4 feet and volume 502.4 cubic feet. Using $\pi \approx 3.14$, find its height.