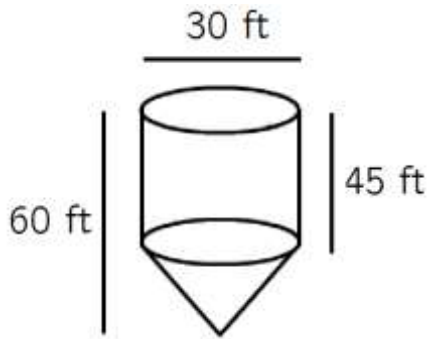


GMD-A2a

5. A silo is being used to store excess grain. It is shaped as shown, including a cone. The structure is 60 feet tall in total, 30 feet wide at its base, and the cylindrical portion is 45 feet tall. To the nearest whole number, find the volume of the silo. Include units in your answer.



6. Find the surface area of the exposed portions of the silo pictured above to the nearest whole number. Include units in your answer.

MG-1a

7. Organizers are preparing water for an upcoming race. Each water cooler is a 2-foot tall cylinder with a 10-inch diameter. Water is distributed in cone-shaped cups 5 inches tall with a diameter of 4 inches. There are 300 runners and each runner is given 2 drinks. Approximately how many coolers are needed? Show the calculations that lead to your conclusion.

MG-A2a

8. A spherical rock with diameter 2.02cm is brought to your lab for identification. Its mass is measured on a scale to be 12.6g. Based on the table below, find the most likely category for the rock.

Type	Density (g/cm ³)
Shale	0.34
Graphite	2.23
Talc	2.92
Pyrite	5.02

9. Find the missing data values in the table. Round each to the nearest whole number.

Country	Total Population	Area (km ²)	Density (people/km ²)
Peru		1,285,000	23
Morocco	34,000,000	450,000	
Laos	6,800,000		27