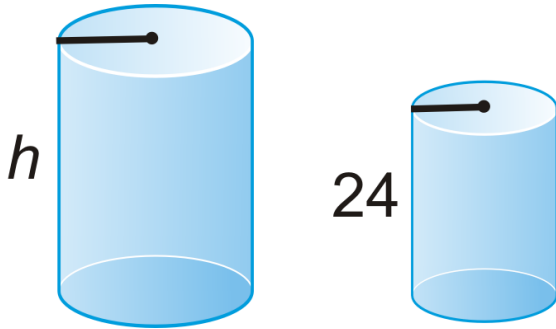


Exploring Similar Solids



Benchmark

9.3.1.3 Understand that quantities associated with physical measurements must be assigned units; apply such units correctly in expressions, equations and problem solutions that involve measurements; and convert between measurement systems.

9.3.1.4 Understand and apply the fact that the effect of a scale factor k on length, area and volume is to multiply each by k , k^2 and k^3 , respectively.

Essential Question: If two solids have a similarity ratio of a/b , can I find the ratio of their surface areas and volumes?

Learning Targets:

I can... Find the relationship of surface areas and volumes in similar solids

Warm Up

1. We know that every circle is similar. Is every sphere similar?
2. Find the volume of a sphere with a 12 in radius. Leave your answer in terms of π .
3. Find the volume of a sphere with a 3 in radius. Leave your answer in terms of π .
4. Two squares have a scale factor of 2:3. What is the ratio of their areas?
5. The smaller square from #4 has an area of 16 cm^2 . What is the area of the larger square?