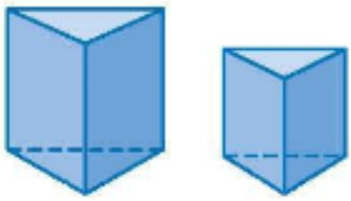
Quiz 12.8 today

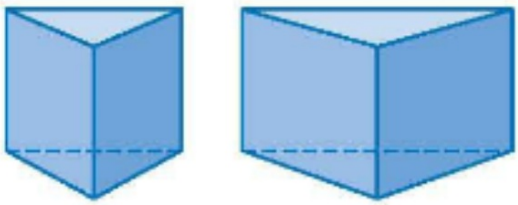
Geometry 12.8
Identify congruent or similar solids
Use properties of similar solids

Congruent
Similar
Scale factor 3:4

V 27:64

SA 9:16

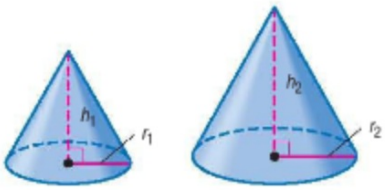




KeyConcept Similar Solids

Words Two solids are similar if they have the same shape and the ratios of their corresponding linear measures are equal.

Models



$$\frac{h_1}{h_2} = \frac{r_1}{r_2}$$

All spheres are similar. (Why?)
All cubes are similar. (Why?)

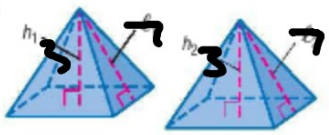
KeyConcept Congruent Solids

Words

Two solids are congruent if they have the following characteristics.

- Corresponding angles are congruent.
- Corresponding edges are congruent.
- Corresponding faces are congruent.
- Volumes are equal.

Models



$$\frac{h_1}{h_2} = \frac{\ell_1}{\ell_2} = 1$$

Example 1 Identify Similar and Congruent Solids

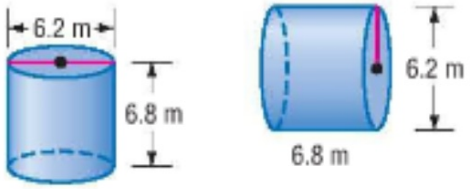
Determine whether each pair of solids is *similar*, *congruent*, or *neither*. If the solids are similar, state the scale factor.

$\frac{5}{6} \stackrel{?}{=} \frac{12}{14.4}$

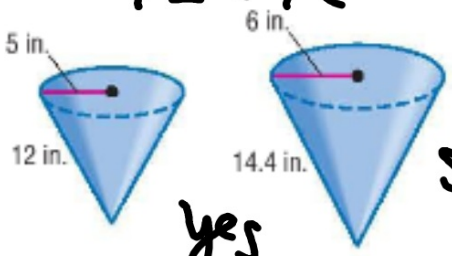
$72 = 72$

GuidedPractice

1A.

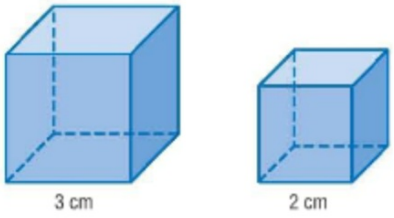


1B.



yes

$SF = \frac{5}{6}$



7 : 9

49 : 81

?

343 : 729

$\frac{343}{729}$

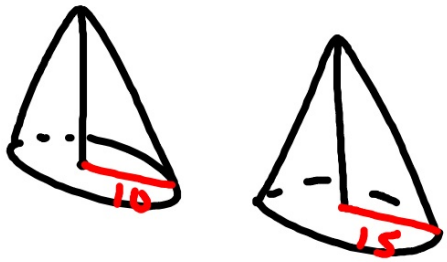
SF 3 : 2

SA 9 : 4

Vol 27 : 8

Example 2 Use Similar Solids to Write Ratios

Two similar cones have radii of 10 millimeters and 15 millimeters. What is the ratio of the surface area of the small cone to the surface area of the large cone?



$10^2 : 15^2$

$100 : 225$

$\frac{100}{225} = \frac{20}{45} = \frac{4}{9}$

Quiz 12.8

Work on projects (Due Fri. 9:15)
Test Fri. Ch. 12

SGR odds p. 904