

☆ **Review: Congruent and Similar Polygons**

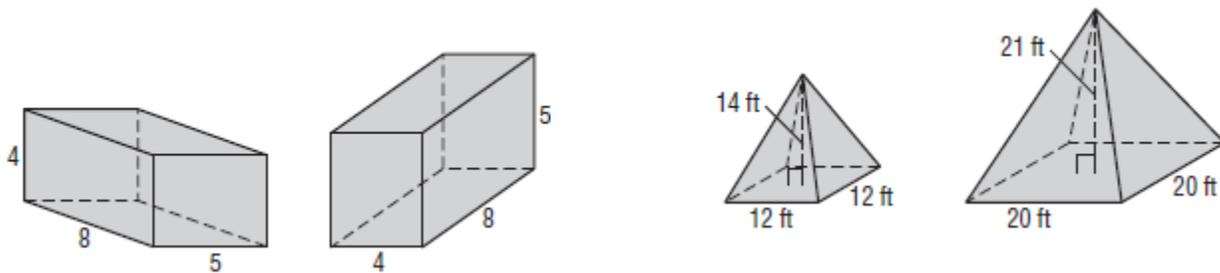
- ☑ Congruent polygons have _____
- ☑ Similar polygons have _____
- ☑ If two polygons are similar, you can set up a proportion to find unknown dimensions.

☆ **Congruent and Similar 3-D Solids**

- ☑ If two 3-D solids are congruent then their corresponding edges and angles are congruent, therefore they have the same surface areas and volumes.
- ☑ If two 3-D solids are similar, then corresponding edges are in proportion. Therefore, you can set up a proportion to solve for unknown dimensions.

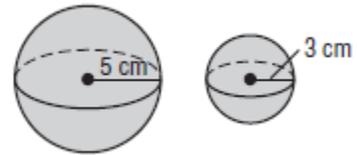
Examples: Determine whether each pair of solids are similar, congruent or neither.

Determine the scale factor (left to right) of the pairs that are similar.



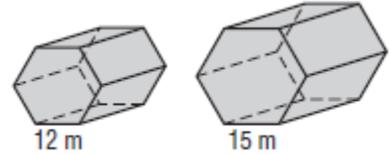
☆ If two solids are similar with a scale factor of _____, then:

- The ratios of their surface areas is _____
- The ratio of their volumes is _____



Ex 1: Use the spheres to the right to answer the following:

1. What is the scale factor of the large sphere to the small sphere? _____
2. What is the ratio of their surface areas? _____
3. What is the ratio of their volumes? _____



Ex 2: Use the prisms to the right to answer the following:

1. What is the scale factor of the small prism to the large prism? _____
2. What is the ratio of their surface areas? _____
3. What is the ratio of their volumes? _____

Ex 3: Suppose the ratio of the volumes of two similar solids is 8:9.

1. What is their scale factor? _____
2. What is the ratio of their surface areas? _____

Ex 4: Suppose the scale factor of two similar solids is 2:5 and the surface area of the smaller solid is 8 in^2 . What is the exact surface area of the larger solid?

Ex 5: Suppose the scale factor of two similar solids is 1:3 and the volume of the larger solid is 72 mm^3 . What is the exact volume of the smaller solid?