

Chapter 9: Surface Area/ Volume
Lesson 9-5: Similar Objects
Homework

name _____
date _____
period ____

Complete the table about similar solids.

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|---------------------------------|-----|-----|-----|--------|------|----------|--------|
| ratio of corresponding segments | 2:3 | 5:2 | | | | | |
| ratio of areas | | | 9:1 | | 25:9 | | 121:49 |
| ratio of volumes | | | | 216:27 | | 729:1000 | |

_____ 8. Two cones have radii 6 and 8. The heights are 30 and 40, respectively. Are the cones similar?

_____ 9. Two cylinders have radii 6 and 15. The heights are 50 and 125, respectively. Are the cylinders similar?

_____ 10. The heights of two right prisms are 9 and 15. The bases are squares with sides 27 and 45, respectively. Are the prisms similar?

_____ 11. Two cones have radii 14 and 42. The heights are 24 and 96, respectively. Are the cones similar?

_____ 12. Two rectangular prisms are similar. The measures of two corresponding sides are 1 m and 2 m. What is the ratio of the volumes of the prisms?

_____ 13. Two soccer balls are made with the same material have a radii of 8 cm and 15 cm. If the larger ball weighs 45 kg, how much does the smaller ball weigh?

_____ 14. The area of a triangle is 48 cm. If the base of this triangle is 12 cm, what is the length of the altitude to this base?

_____ 15. The area of square ABCD is 81 square centimeters. What is the number of centimeters in the perimeter of the square?