

Name \_\_\_\_\_  
MATH 225-001, Summer 2009

Date \_\_\_\_\_  
Instructor: Scott Keltner

## **EXAM 3 REVIEW PACKET: CHAPTER 12 AND 13**

---

### **SCALING FACTORS**

1. You own a poster for the movie “Step Brothers” whose dimensions are 24 inches by 30 inches. If you want to create a scale picture of it as a “thumbnail” picture on your cell phone so that the longest edge is 1 inch, what is the length of the smaller side of the thumbnail image?

*Answer: 0.8 inches*

2. Artificial Christmas trees tend to be proportional in shape. If a 4-foot tree needs approximately 60 ornaments to cover the outer limbs of the tree, how many ornaments will a 6-foot tree need?

*Answer: 90 ornaments*

3. The length of an object increases by a scaling factor of 2.5. What is the scaling factor of its area? Its volume?

*Answer: area: 6.25  
volume: 15.625*

4. A granite sculpture is installed outside the Carlsen Center on campus and weighs approximately 3000 pounds. If a smaller version of it is to be installed at President Callaway’s residence, that is  $\frac{2}{3}$  the height of the original, how much will it weigh (round to the nearest tenth of a pound)?

*Answer: 888.9 pounds*

### **CHAPTER 12: THE GEOMETRY OF FRACTAL SHAPES**

These questions are included in another document.

### **CHAPTER 13: COLLECTING STATISTICAL DATA**

These questions are included in another document.