

Section 8.4 Worksheet

Name _____

Models and Patterns in Art, Architecture, and Nature: Scale and Proportion

1. A house has a rectangular foundation that measures 35 feet by 50 feet. On a blueprint for the house, the foundation measures 17.5 inches by 25 inches. What is the scale of the blueprint?
2. If a square that is 12 feet on each side is drawn in $\frac{1}{20}$ scale, how long (in inches) would the sides of the square be?
3. Is a rectangle 162 feet wide and 262 feet long approximately a “golden” rectangle?
4. What are the sixth and seventh numbers in the Fibonacci Sequence?
5. A triangle has sides that are 3 inches, 4 inches, and 5 inches long. How long would these sides be in a $\frac{3}{1}$ scale drawing?
6. Suppose that your sister is 5 feet, 3 inches tall. She wins a sports trophy and the human figure on it is 6 inches tall. Compared with your sister’s height, what is the scale of the trophy figure?
7. A company advertises $\frac{1}{43^{\text{rd}}}$ scale model cars including Indy racers and IMSA race cars. What does this number tell you about the model?
8. A $\frac{1}{15}$ scale model of a rocket is 22 inches tall. How tall, in feet, is the actual rocket?
9. Which is closer to being a “golden” rectangle, an $8\frac{1}{2}$ by 11 inch sheet of notebook paper or an $8\frac{1}{2}$ by 14 inch sheet of paper from a legal pad?
10. A map has a scale that says $1'' = 25$ mi. How far apart, in miles, are two towns that are $4\frac{1}{2}$ inches apart on the map?
11. A house plan has a scale that indicates $1'' = 8$ feet. If a bedroom in a house measures 12 feet by 20 feet, what are the dimensions of this room on the house plan?
12. If you wanted to construct a “golden” rectangle with a shortest side of 13 feet, how long would the other side need to be?