Name: _____ Pd: 3rd Date: 10/31/17

Accelerated Math 7
CH 5.8-Scale Models and Drawings (Pg 224)

ESSENTIAL QUESTION:
HOW can you identify and represent proportional relationships?

Success Criteria:
1. I can use scale drawings.
2. I can construct scale drawings.

SMPs:
1. Persevere with Problems
3. Construct Viable Arguments
4. Model with Mathematics

CCSS:
7.G.1

Vocabulary:
Scale Drawing
Scale Model
Scale
Scale Factor

USE SCALE DRAWINGS AND MODELS

SCALE MODELS and **DRAWINGS** are used to represent something that is too big or too small to be drawn or built.

The lengths and widths of objects on scale drawings/models are _____ to the lengths and widths of the actual objects.

The _____ is determined by the ratio of given length on the drawing to its corresponding length on the actual object.

1 in. = 3 ft, where 1 inch on the model represents an actual distance of 3 feet
1 cm = 2 mm, where 1 centimeter on the model represents an actual distance of 2 millimeters

YOU CAN USE PROPORTIONS TO FIND MISSING LENGTHS ON A MODEL OR REAL OBJECT.

Finding scales using proportions.

1. The pillars of the World War II memorial in Washington, D.C. are 17 feet tall. A scale model of the memorial has pillars that are 5 inches tall. What is the scale of the model?

2. The length of a model of a bridge is 16 inches. The actual length of the bridge is 50 yards. What is the scale of the model?

SCALE FACTORS

If the scale drawing and model have the same unit of measure, the scale an be written without units. This is called the _____.

Suppose a scale model has a scale of 1 inch = 2 feet

3. A map of a natural history museum shows that the dinosaur exhibit room is 7.25 inches wide. If the scale on the map is 1 inch = 8 feet, what is the width of the actual exhibit room?

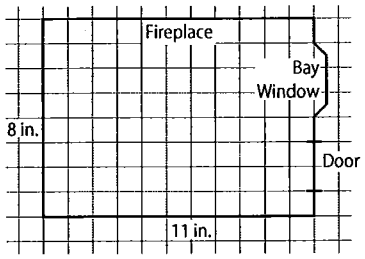
NAME _____ DATE 10/31/17 PERIOD 3rd

All

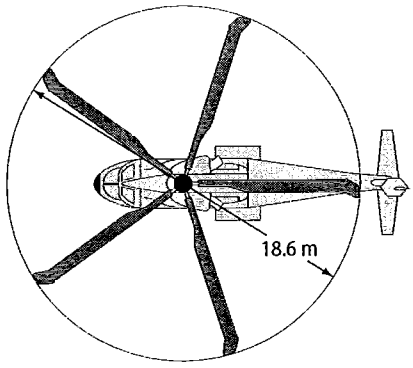
Lesson 8 Problem-Solving Practice

Scale Drawings and Models

1. Jane is planning the furniture layout of her living room. On the scale drawing of the living room below, 1 inch represents 2 feet. What measurement does 8 inches represent?



2. The diameter of the sweep of the main rotor of the EH101 helicopter is 18.6 meters. A toy model of it has a sweep of 31 centimeters. What is the scale of the model?



3. The Freedom Tower will sit at the northwest corner of the 16-acre World Trade Center site in New York City. The height of the tower is set to be 1776 feet. Suppose that 1 inch represents 74 feet on a scale model of the tower. What is the height of the model?

4. Mr. Miller's model railroad layout is in HO scale. The scale factor of HO is 1:87. How high is the smokestack of the actual engine if the model is 2 inches high? Express your answer in feet.

5. John and Julie are planning to have a new house built. The architect designed a house and sent them the blueprints. The scale that the architect used on the blueprints is $2\frac{1}{2}$ inches equals 10 feet. The living room will have the actual dimensions of 12 feet by 16 feet. What are its dimensions on the blueprints?

6. Refer to the information in Exercise 5. Julie notices that the bedroom closet on the blueprint is 0.25 inch by 1 inch. She told the architect that she wanted a walk-in closet that is 6 feet long. Did the architect follow her instruction? Explain.