

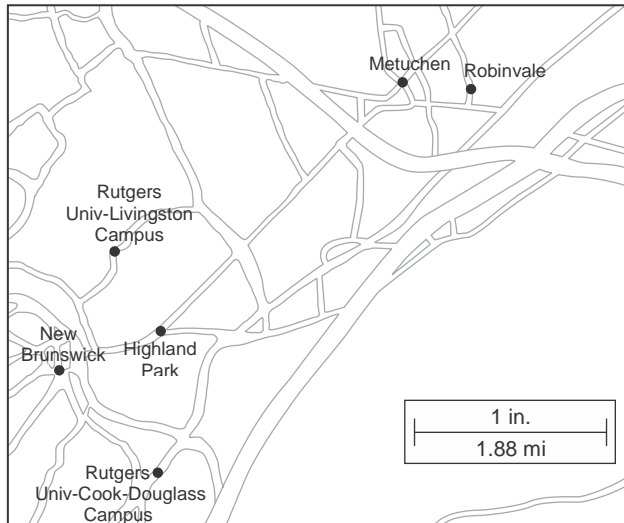
7-7

Practice

Scale Drawings and Models

MAPS Use the map of Central New Jersey shown and an inch ruler to find the actual distance between each pair of cities. Measure to the nearest sixteenth of an inch.

1. Highland Park and Metuchen
2. New Brunswick and Robinvale
3. Rutgers University Livingston Campus and Rutgers University Cook–Douglass Campus



4. **AIRPLANES** William is building a scale model of a Boeing 747-400 aircraft. The wingspan of the model is approximately $8\text{ feet } 10\frac{1}{16}\text{ inches}$. If the scale factor of the model is approximately 1:24, what is the actual wingspan of a Boeing 747-400 aircraft?
5. **ENGINEERING** A civil engineer is making a scale model of a highway on ramp. The length of the model is 4 inches. The actual length of the on ramp is 500 feet.
 - a. What is the scale of the model?
 - b. How many times as long as the actual on ramp is the model?
 - c. How many times as long as the model is the actual on ramp?
6. **MOVIES** A movie director is creating a scale model of the Empire State Building to use in a scene. The Empire State Building is 1250 feet tall.
 - a. If the model is 75 inches tall, what is the scale of the model?
 - b. How tall would the model be if the director uses a scale factor of 1:75?
7. **MONA LISA** A visitor to the Louvre Museum in Paris wants to sketch a drawing of the *Mona Lisa*, a famous painting. The original painting is 77 centimeters by 53 centimeters. Choose an appropriate scale for the replica so that it will fit on a 8.5-by-11-inch sheet of paper.