

Using Map Scales

EXAMPLE

Mercedes is planning a road trip from Baltimore to Chicago. On the map the two cities are $4\frac{1}{16}$ inches apart. The map is drawn to scale so that $\frac{11}{16}$ " equals 100 miles. Estimate the distance between these two cities.

Step 1 Write the map scale proportion.

$$\frac{\frac{11}{16} \text{ "}}{100} = \frac{4\frac{1}{16} \text{ "}}{\text{Balto to Chi}}$$

Step 2 Solve the proportion.

$$\frac{\frac{11}{16} \text{ "}}{100} = \frac{4\frac{1}{16} \text{ "}}{\text{Balto to Chi}}$$

$$100 \times 4\frac{1}{16} \div \frac{11}{16} =$$

$$100 \times \frac{65}{16} \div \frac{11}{16} =$$

$$100 \times \frac{65}{16} \times \frac{16}{11} =$$

$$100 \times 65 \div 11 = 591 \text{ miles}$$

Mercedes estimates that her trip will be about 591 miles.

Directions Find the estimated distance between the following cities using the map scale of $\frac{11}{16}$ " = 100 miles. Find the difference between the estimated distance and the distance from the mileage table.

	Departure City	Destination City	Distance On Map	Estimated Distance	Mileage Table	Difference in Miles
1.	Boston, MA	Miami, FL	$8\frac{5}{8}$ "		1,520 miles	
2.	Denver, CO	Houston, TX	$5\frac{7}{8}$ "		1,034 miles	
3.	San Francisco, CA	Kansas City, KS	10"		1,861 miles	
4.	Minneapolis, MN	Little Rock, AR	$4\frac{7}{8}$ "		825 miles	
5.	Los Angeles, CA	Seattle, WA	$6\frac{3}{8}$ "		1,134 miles	
6.	Toronto, ON	Montreal, PQ	$2\frac{1}{4}$ "		337 miles	
7.	Salt Lake City, UT	Calgary, AB	$4\frac{3}{4}$ "		883 miles	
8.	Richmond, VA	Charleston, WV	$1\frac{5}{8}$ "		315 miles	
9.	Carson City, NV	Boise, ID	$2\frac{7}{16}$ "		452 miles	
10.	Nashville, TN	Montgomery, AL	$1\frac{3}{4}$ "		282 miles	

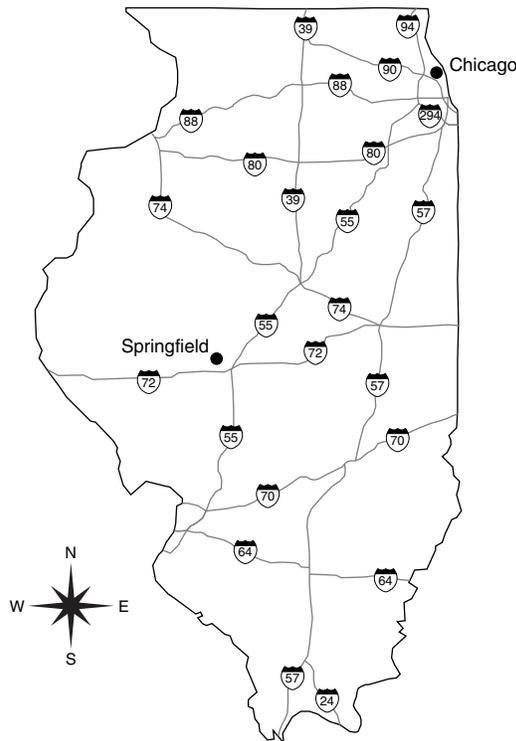
On the back of this paper, suggest reasons why the mileage table and estimates are not equal.



The Interstate System

EXAMPLE The naming of the routes in the Interstate System follows rules.

1. All north-south roads are odd one- or two-digit numbers. I-39 is a north-south road.
2. All east-west routes are even two-digit numbers. I-72 is an east-west road.



Directions This map shows some of the interstate highways in Illinois. Answer these questions about the highways.

1. What direction does I-57 travel? _____
2. What direction does I-88 travel? _____
3. If you want to travel south from Chicago, should you take I-80 or I-57? _____
4. If you want to travel east from Springfield, should you take I-72 or I-55? _____