

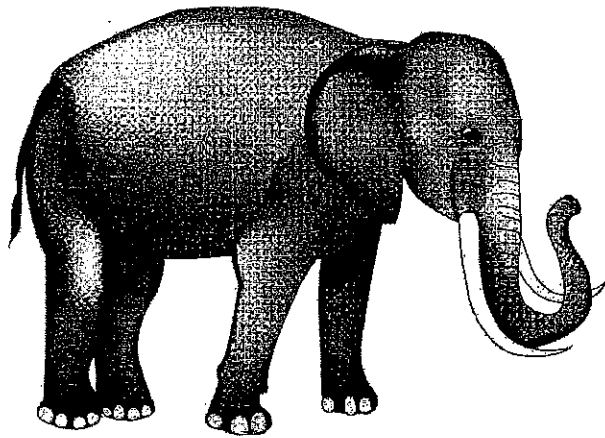
Name _____ Period _____

UNDERSTANDING SCALE DRAWINGS

A scale drawing or scale model is used to represent an object that is too large or too small to be drawn or built at actual size. The scale is determined by the ratio of the given length on the drawing or model to its actual length.

Example 1

Erica is writing a report on the African bull elephant. A scale drawing is shown below.



1 cm = 1 ft 8 in.

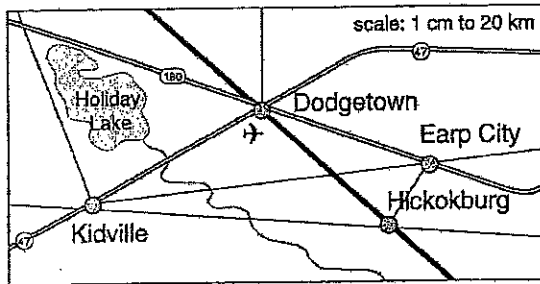
- A. Measure the height in the drawing from the highest point on the elephant's back to the ground. To the nearest centimeter, what is the height of the drawing of the elephant?

Answer _____ cm

- B. What is the actual height of the elephant in feet?

Answer _____ ft

Example 2



- A. Measure the distance on the map between Hickokburg and Kidville.

Answer _____ cm

- B. Using the scale, what is the actual distance between Hickokburg and Kidville?

Answer _____ km

Example 3

The cities of Indianapolis, Indiana and Brownsville, Texas are 1,166 miles apart. If the scale of a U.S. map is 1 in. : 250 miles, then how far apart are the cities on the map?

Scale Drawing Problems

Name _____

1. The distance between two cities on a map is 3.2 centimeters. If the scale on the map is 1 cm = 50 km, find the actual distance between the two cities.

2. A scale model of the Empire State Building is 10 inches tall. If the Empire State Building is 1,250 ft tall, find the scale of this model.

3. On a scale drawing of a house, the dimensions of the living room are 4 inches by 3 inches. If the scale of the drawing is 1 inch = 6 feet, find the actual dimensions of the living room.

Hint: Do 1 proportion for the length and a different proportion for the width of the room.

4. Columbus, Ohio, is approximately 70 miles from Dayton, Ohio. If a scale on an Ohio map is 1 inch = 11 miles, about how far apart are the cities on the map?

5. Each column of the Lincoln Memorial in Washington, D.C. is 44 feet tall. Michaela wants the columns of her model to be no more than 12 inches tall.
 - a. What scale could she use to make the model?

 - b. If she used the same scale from part a above to make a model of Lincoln's 19 ft statue, how tall would the statue be?

MathFLIX CHALLENGE

Inspired by *Aunt Harriet's Underground Railroad in the Sky* by Faith Ringgold

Use the scale of miles on the map to estimate the distance traveled on the Underground Railroad.

Escape from	To	Via	Approximate Distance
Annapolis, Maryland	Canada	Providence, Rhode Island	
Annapolis, Maryland	Canada	New York, New York	
Columbia, South Carolina	Canada	Providence, Rhode Island	
Columbia, South Carolina	Canada	New York, New York	
Jackson, Mississippi	Canada	Cincinnati, Ohio	
Jackson, Mississippi	Canada	Detroit, Michigan	
Jackson, Mississippi	Canada	St. Louis, Missouri	
Houston, Texas	Mexico	<i>[does not apply]</i>	
Baton Rouge, Louisiana	Caribbean Islands	<i>[does not apply]</i>	

Use the information from the table above and your general knowledge of U.S. geography to label each of the states that made up the United States in 1850.

Free States	Slave States
Connecticut	Alabama
Illinois	Arkansas
Indiana	Delaware
Iowa	Florida
Maine	Georgia
Massachusetts	Kentucky
Michigan	Louisiana
New Hampshire	Maryland
New Jersey	Mississippi
New York	Missouri
Ohio	N. Carolina
Pennsylvania	S. Carolina
Rhode Island	Tennessee
Vermont	Texas
Wisconsin	Virginia

