



Name \_\_\_\_\_

## Scale Drawings

**R** 12-3

**Scale** is a ratio that compares the size of an object in a photo or drawing to the size of the actual object.

This ratio can be expressed as  $\frac{\text{scale length}}{\text{actual length}}$

At the right is a scale drawing of a giant game board. In this game, children are the playing pieces and move along the board.

The scale of the drawing is  $\frac{1 \text{ inch}}{3 \text{ feet}}$ .

This means that 1 inch of the drawing represents 3 actual feet of the game board.

What is the actual length of the game board?

The scale length is 2 inches. Find an equivalent ratio for  $\frac{1 \text{ inch}}{3 \text{ feet}}$

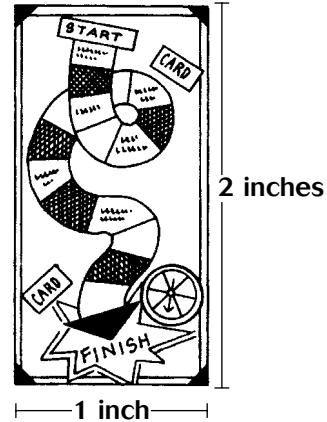
in which the scale length is 2 inches.  $\frac{1 \text{ inch}}{3 \text{ feet}} = \frac{2 \text{ inches}}{x \text{ feet}}$ .

What number times 1 inch is 2 inches?

Since  $2 \times 1 = 2$ , multiply each term of the scale by 2.

$$\frac{1 \text{ inch} \times 2}{3 \text{ feet} \times 2} = \frac{2 \text{ inches}}{6 \text{ feet}} \quad \begin{array}{l} \leftarrow \text{scale length} \\ \leftarrow \text{actual length} \end{array}$$

The actual length of the game board is 6 feet.



If the scale is  $\frac{1 \text{ inch}}{9 \text{ yards}}$ , what is the actual length for each scale length?

1. 3 inches = \_\_\_\_\_ yards                      2. 5 inches = \_\_\_\_\_ yards

3. 7 inches = \_\_\_\_\_ yards                      4. 1 foot = \_\_\_\_\_ yards

If the scale is  $\frac{2 \text{ inches}}{6 \text{ miles}}$  what is the actual length for each scale length?

5. 4 inches = \_\_\_\_\_ miles                      6. 6 inches = \_\_\_\_\_ miles

7. 1 inch = \_\_\_\_\_ miles                      8. 2 feet = \_\_\_\_\_ miles