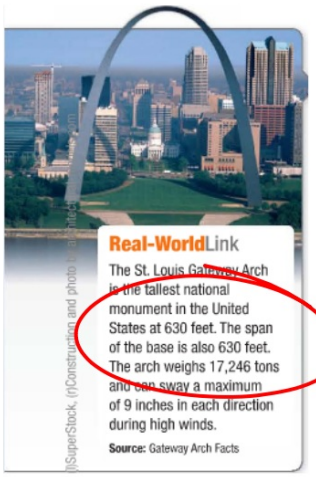
Geometry 7.7
Interpret scale models
Use scale factors to solve problems
scale factor SF = same unit
scale model
scale drawing
scale → 1 in = 250 mi
mixed units ok
activity: maps & blueprints

$\frac{1\text{ in}}{250\text{ mi}} = \_\_$

Quiz today
7.5-7.6



Real-WorldLink

The St. Louis Gateway Arch is the tallest national monument in the United States at 630 feet. The span of the base is also 630 feet. The arch weighs 17,246 tons and can sway a maximum of 9 inches in each direction during high winds.

Source: Gateway Arch Facts

(t)SuperStock, (r)Construction and photo

Real-World Example 3 Construct a Scale Model

SCALE MODEL Suppose you want to build a model of the St. Louis Gateway Arch that is no more than 11 inches tall. Choose an appropriate scale and use it to determine the height of the model. Use the information at the left.

$$\frac{1\text{ in}}{x} = \frac{11\text{ in}}{630\text{ ft}}$$

$11x = 630$

$x = 57.27$

$\frac{1\text{ in}}{57.27\text{ ft}}$

- Proportion
- 1 inch = ???
- use friendly numbers for scale (bec. you are building it)
- has to fit in 11 inches
- round down if necessary (bec. it has to fit)

$\frac{1\text{ in}}{50\text{ ft}} = \frac{x}{630}$ ← $50x = 630$

12.6

$\frac{1\text{ in}}{60\text{ ft}} = \frac{x}{630}$

$60x = 630$

10.5

WB 7.7 prac.