Assignment

Write

Write the term that best completes each sentence.

1. The purpose of a(n) _____ is to create an accurate drawing of either a very large or very small object.
2. Two geometric figures that are proportional in size are _____ figures.
3. The "bottom" sides of two similar triangles are _____ sides.

Practice

1. Brent and Margaret are planning a trip to the city of Chicago. The map shown includes several destinations they would like to visit while they are there. A scale is included on the map.
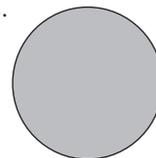

a. According to the map, which is longer, a meter or a foot? How can you tell?

b. By following the shortest route along the roads, determine the distance from the Civic Opera House to the Chicago Temple. Write your answer in meters and in feet.

c. Use the distances you approximated from the Opera House to the Temple to determine the approximate number of feet that are in one meter. Explain your answer.

d. By following the shortest route along the roads, determine the distance from the Crown Fountain to the James R. Thompson Center. Write your answer in meters and in feet.

e. By following the shortest route along the roads, determine the distance from the Chicago Mercantile Exchange to Macy's. Write your answer in meters and in feet.

f. Use the distances you approximated from the Chicago Mercantile Exchange to Macy's to determine the approximate number of meters that are in one foot. Explain your answer.

2. While in Chicago, Brent and Margaret plan on visiting the Willis Tower, built as and still commonly referred to as the Sears Tower.

   a. In the lobby, there is a model of the Sears Tower that has an observation deck with a height of 4 meters. If the actual height of the observation deck is 412 meters, what is the scale of the model?

   b. Brent and Margaret decide to buy a toy replica of the Sears Tower in the gift shop to take home to their neighbors. The toy replica has a scale of 1 inch : 200 feet. Is this replica larger or smaller than the model in the lobby?

   c. If the toy replica from the gift shop is 7.25 inches tall, what is the height in feet of the actual Sears Tower? Show your work.

Stretch

You may have seen the star Betelgeuse (BEETLE juice) in the night sky. It is a red giant star, which has a radius of 821.3 million kilometers. By comparison, our Sun has a radius of 0.5 million kilometers.

Suppose the circle shown represents our Sun. How big would the model of Betelgeuse be if you drew it to scale?

Review

1. Determine each percent increase or decrease.
   a. Original: $340 New: $34   b. Original: 75 New: 225

2. Solve each proportion.
   a. $\frac{4}{x} = 9$ b. $\frac{7.5}{26} = \frac{75}{P}$

3. Graph each inequality on a number line.
   a. $x > 7$ b. $-12 \leq x$