Lesson 18: Computing Actual Lengths from a Scale Drawing

Problem Set

1. A toy company is redesigning its packaging for model cars. The graphic design team needs to take the old image shown below and resize it so that inch on the old packaging represents inch on the new package. Find the length of the image on the new package.

Car image length on old packaging measures inches.

1. The city of St. Louis is creating a welcome sign on a billboard for visitors to see as they enter the city. The following picture needs to be enlarged so that inch represents feet on the actual billboard. Will it fit on a billboard that measures feet in height?

1. Your mom is repainting your younger brother’s room. She is going to project the image shown below onto his wall so that she can paint an enlarged version as a mural. Use a ruler to determine the length of the image of the train. Then determine how long the mural will be if the projector uses a scale where inch of the image represents feet on the wall.

1. A model of a skyscraper is made so that inch represents feet. What is the height of the actual building if the height of the model is inches?
2. The portrait company that takes little league baseball team photos is offering an option where a portrait of your baseball pose can be enlarged to be used as a wall decal (sticker). Your height in the portrait measures inches. If the company uses a scale where inch on the portrait represents inches on the wall decal, find the height on the wall decal. Your actual height is inches. If you stand next to the wall decal, will it be larger or smaller than you?
3. The sponsor of a K run/walk for charity wishes to create a stamp of its billboard to commemorate the event. If the sponsor uses a scale where inch represents feet, and the billboard is a rectangle with a width of feet and a length of feet, what will be the shape and size of the stamp?
4. Danielle is creating a scale drawing of her room. The rectangular room measures by . If her drawing uses the scale where inch represents feet of the actual room, will her drawing fit on an by piece of paper?
5. A model of an apartment is shown below where inch represents feet in the actual apartment. Use a ruler to measure the drawing and find the actual length and width of the bedroom.

Bedroom