6.3 Assignment

PRACTISE YOUR NEW SKILLS

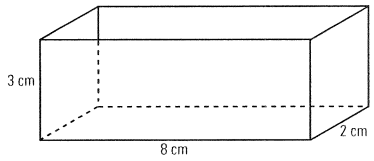
1. The scale ratio (model:original) between two diagrams is 3:5. If one measure on the model is 45 mm, what was the measure on the original?

2. Draw a square with sides of 2 cm, and a second square with sides that are 3 cm.

   a) Is the second square similar to the first? Explain your reasoning.

   b) If you draw a rectangle whose sides are 5 cm and 8 cm, and a second rectangle with sides that are 3 cm longer, will the two be similar? Explain your reasoning.

3. Draw a rectangular prism similar to the one shown below with sides that are $\frac{1}{2}$ the length of the original.



4. A poster shows a photograph of a cruise ship. The actual ship is 310 metres long. In the photograph, the cruise ship is 1.2 m long.

   a) What is the scale factor (to 4 decimal places)?

   b) A person 1.8 m tall was standing on the deck of the cruise ship when the photo was taken. How tall is the person on the photo (to the nearest tenth of a centimetre)?

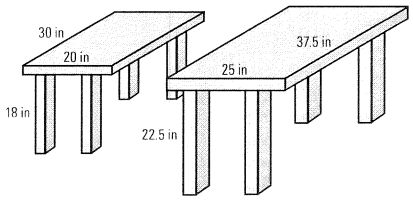
5. A sporting goods store has miniature versions of tents on display. A six-person tent is 12′ long by 10′ wide. The miniature version has a length of $1\frac{1}{2}$.

   a) What is the width of the miniature version?

   b) What is the scale ratio (miniature:actual)?

BUILD YOUR SKILLS

4. Simrin has built two end tables. The second table is a slightly larger version of the first. Given the dimensions below, calculate what scale factor Simrin used to make the larger table.



5. A craft store uses small gift boxes to wrap purchases. They have one box that is 20 cm by 12 cm by 5 cm. Another box is larger by a scale factor of 1.3. What are the dimensions of the larger box?

6. Hazuki made a kite with the dimensions shown below. She decided it would work better if it were bigger. If her new kite tail has a length of 49 cm, what scale factor did she use, and what are the kite's other dimensions?