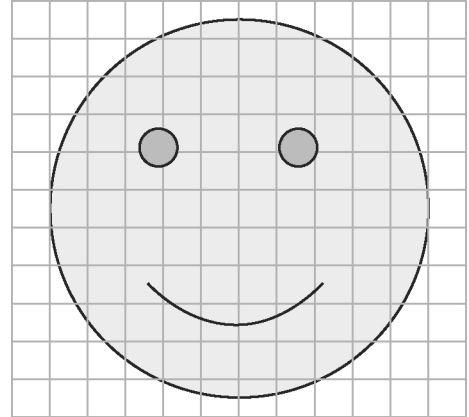


Section 4.1 Math Link

This worksheet will help you with the Math Link on page 138.

1. The design project you choose might include a circle. Use the steps to create an image of the smiley face using a scale factor of 4.



- Measure the diameter of the original figure. Using a scale factor of 4, the diameter for the enlargement is _____ cm.
- Draw a line on grid paper to represent the diameter of the image.
- Identify the midpoint of the diameter on your diagram. The radius is _____ cm. Using this radius and a compass, draw a circle.
- Measure the diameter of an eye. Using a scale factor of 4, the diameter for the enlargement is _____ cm.
- Use string to measure the length of the smile. Using a scale factor of 4, the line length for the enlargement is _____ cm.
- Use the original figure to determine the location of the centre of each eye and the end points of the smile. Use this information to locate the centre of each eye and the end point of the smile on your diagram.
- Use the compass to draw each eye. Use a piece of string to draw the smile.

Alternatively, you can draw the contents of each grid square into the corresponding region on 2-cm grid paper.

2. Answer the following questions to help you decide on your design project.
- a) List at least two areas of interest.
 - b) From your areas of interest, what are two possible design projects?
 - c) On a separate sheet of paper, make a rough sketch for each possible design project. Which design will be easier to enlarge or reduce?
 - d) Which design project will you choose?
3. Research your project using the library or the Internet. Obtain or develop an initial design or drawing.
4. Using grid paper, draw an enlargement or a reduction of your design to scale.