

Applying Problem-Solving Strategies

YOU WILL NEED

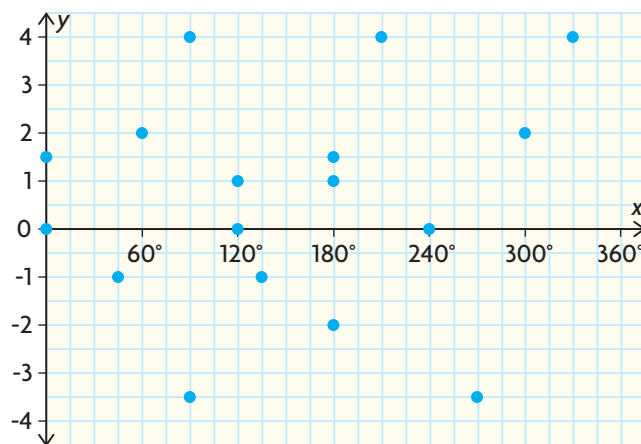
- blackline master
- coloured pencils or markers

Hidden Waves

Dominika graphed three sinusoidal functions for her math class. Her younger brother erased the graphs by mistake, leaving behind only the points shown. All of these points are either maximum or minimum values, or on the midline of a sinusoidal graph. Dominika needs to recreate each graph.

The Puzzle

What are the graphs of the three sine functions?



The Strategy

- What points would you expect to lie on the same horizontal line for each graph? How could you use this information to determine which points belong to each graph?
- How could determining the points that have x -values halfway between the x -values of two other points help you determine which points belong to each graph?
- Continue looking for patterns until you have recreated all three graphs.

Variation

- Draw two or three sinusoidal functions, and select six points from each function. Plot these points on a separate grid to make a puzzle. Exchange puzzles with a classmate, and see if you can solve each other's puzzles.