1. Which expression is represented by the algebra tile model?
   A) $4x^2 + 2x - 5$
   B) $-4x^2 - 2x - 5$
   C) $4x^2 - 2x - 5$
   D) $4x^2 + 2x + 5$

2. Use tiles to model each algebraic expression.
   a) $x^2 + 3x$
   b) $2x^2 + 5$
   c) $3x^2 + x + 2$
   d) $x^2 + 2x + 4$

3. Write the algebraic expression represented by each model.
   a) 
   b) 
   c) 
   d) 

4. Each unit tile represents 1 km that Miko rode her bicycle. Find each distance.
   a) 
   b) 
   c) 
   d) 

5. Create an algebraic expression of your own, using $x^2$-tiles, x-tiles, and unit tiles, and build a tile model to represent it. Record the expression and the model.

6. a) Build a volume model to represent a cube with length, width, and height all equal to 4 cm. Sketch the model and label the length, width, and height.
   b) What is the volume? Write this as a power.
   c) Write an expression for the area of one face as a power. Evaluate the area of one face.

7. A cube has a volume of 216 cm$^3$.
   a) What side length of the cube would give this volume?
   b) Determine the area of one face of the cube.

8. The area of one face of a cube is 49 m$^2$.
   a) What side length of the cube would give this area?
   b) Determine the volume of the cube.

Extend

9. Build an area model using tiles that have length and width as indicated.
   a) length = $x + 3$, width = $x$
   b) length = $x + 4$, width = $x + 1$

10. A cube has a volume of 8 cm$^3$. Find the total surface area of all six faces.