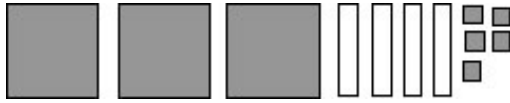
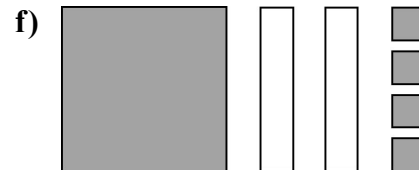
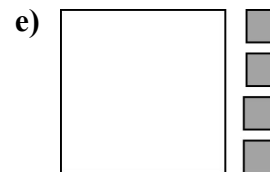
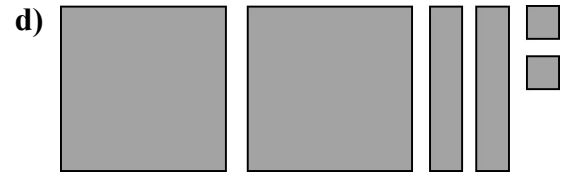
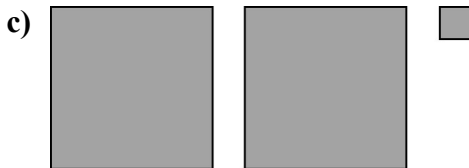


## Practice: Build Algebraic Models Using Concrete Materials

1. Which expression does this algebra tile model represent?



- A  $3x^2 + 4x + 5$   
 B  $-3x^2 + 4x - 5$   
 C  $3x^2 - 4x + 5$   
 D  $3x^2 - 4x - 5$
2. Model each algebraic expression using algebra tiles.
- a)  $3x + 1$                       b)  $x^2 + 4$   
 c)  $4x^2 - 3x$                     d)  $x^2 + 2x + 1$   
 e)  $2x^2 + x - 3$                 f)  $-2x^2 - 2x + 4$   
 g)  $x^2 - x - 1$                     h)  $-x^2 - 5$
3. Each model represents an algebraic expression. Write each algebraic expression.



4. Use algebra tiles to represent each length.
- a) 5 m  
 b) 3 laps around a 1-km track  
 c) 2 laps around a track with unknown distance  
 d) 4 m plus an unknown distance
5. a) Use linking cubes to build a model of a cube that has sides 2 cm long. Sketch the cube and label the length, width, and height.  
 b) Write an expression for the volume of the cube, as a power. Find the volume of the cube.
6. One face of a cube has area  $16 \text{ cm}^2$ .
- a) What is the side length of the cube?  
 b) Find the volume of the cube.