

# Unit 1 Lesson 18: Surface Area of a Cube

## 1 Exponent Review (Warm up)

### Student Task Statement

Select the greater expression of each pair without calculating the value of each expression. Be prepared to explain your choices.

- $10 \cdot 3$  or  $10^3$
- $13^2$  or  $12 \cdot 12$
- $97 + 97 + 97 + 97 + 97 + 97$  or  $5 \cdot 97$

## 2 The Net of a Cube

### Student Task Statement

1. A cube has edge length 5 inches.
  - a. Draw a net for this cube, and label its sides with measurements.
  - b. What is the shape of each face?
  - c. What is the area of each face?
  - d. What is the surface area of this cube?
  - e. What is the volume of this cube?

2. A second cube has edge length 17 units.

- a. Draw a net for this cube, and label its sides with measurements.
- b. Explain why the area of each face of this cube is  $17^2$  square units.
- c. Write an expression for the surface area, in square units.
- d. Write an expression for the volume, in cubic units.

### 3 Every Cube in the Whole World

#### Student Task Statement

A cube has edge length  $s$ .

1. Draw a net for the cube.
2. Write an expression for the area of each face. Label each face with its area.
3. Write an expression for the surface area.
4. Write an expression for the volume.