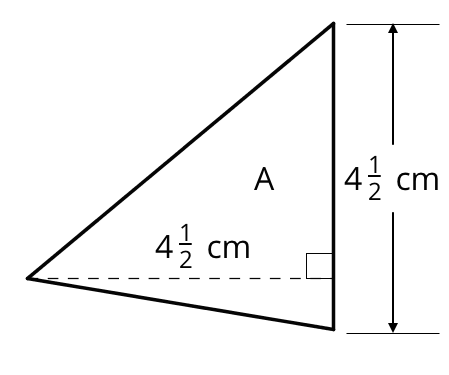
## Unit 4 Lesson 14: Fractional Lengths in Triangles and Prisms

### 1 Area of Triangle (Warm up)

#### Student Task Statement

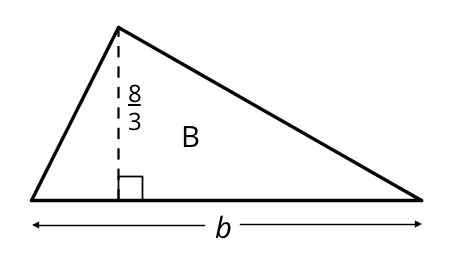
Find the area of Triangle A in square centimeters. Show your reasoning.



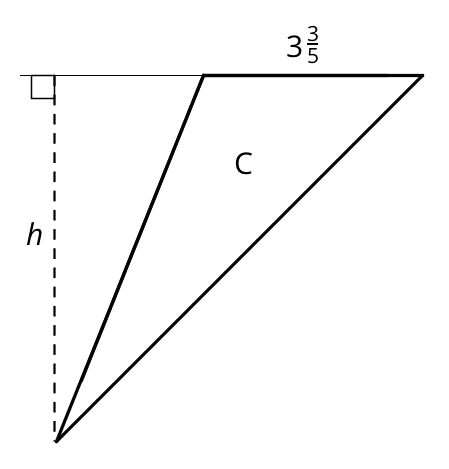
### 2 Bases and Heights of Triangles

#### Student Task Statement

1. The area of Triangle B is 8 square units. Find the length of . Show your reasoning.

* 

1. The area of Triangle C is square units. What is the length of ? Show your reasoning.

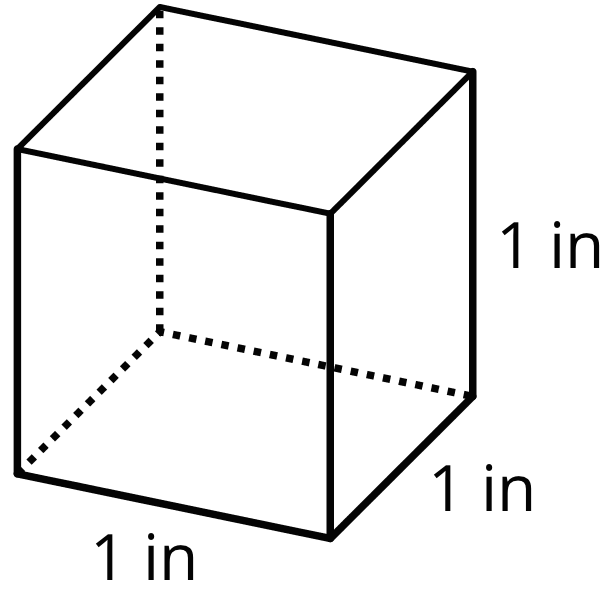
* 

### 3 Volumes of Cubes and Prisms

#### Student Task Statement

Your teacher will give you cubes that have edge lengths of inch.

1. Here is a drawing of a cube with edge lengths of 1 inch.

* 
  1. How many cubes with edge lengths of inch are needed to fill this cube?
  2. What is the volume, in cubic inches, of a cube with edge lengths of inch? Explain or show your reasoning.

1. Four cubes are piled in a single stack to make a prism. Each cube has an edge length of inch. Sketch the prism, and find its volume in cubic inches.
2. Use cubes with an edge length of inch to build prisms with the lengths, widths, and heights shown in the table.
   1. For each prism, record in the table how many -inch cubes can be packed into the prism and the volume of the prism.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| * + prism length (in) | * + prism width (in) | * + prism height (in) | * + number of -inch cubes in prism | * + volume of prism (in3) |
|  |  |  |  |  |
| * + 1 | * + 1 |  |  |  |
| * + 2 | * + 1 |  |  |  |
| * + 2 | * + 2 | * + 1 |  |  |
| * + 4 | * + 2 |  |  |  |
| * + 5 | * + 4 | * + 2 |  |  |
| * + 5 | * + 4 |  |  |  |

* 1. Examine the values in the table. What do you notice about the relationship between the edge lengths of each prism and its volume?

1. What is the volume of a rectangular prism that is inches by inches by 4 inches? Show your reasoning.



© CC BY Open Up Resources. Adaptations CC BY IM.