

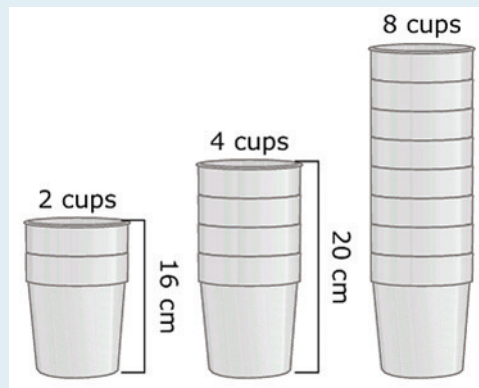
Focus Standards and Claim

Claim 4  
7.EE.B.4

Stimulus

### Stacks of Cups

Your science classroom uses cups for many experiments. Your teacher ordered lots of cups from a catalog. The catalog is not very good. It has the following picture, but no other useful information.



Your teacher wants you to help her get organized for when the cups arrive next week. Using only the information shown in the picture, she asks you to figure out some other specific measurements.

Item Prompt

Your teacher thinks that instead of having to figure out these stacks each time, it would be useful to understand the general relationship.

Write an equation expressing the relationship between the height of the stack and the number of cups in the stack.

Let  $h$  represent the height of the stack, in cm, and  $n$  the number of cups in the stack.

## Scoring Guide

SCORE	1 POINT	0 POINTS
	Student writes an equation of the form $h = 2n + 12$ or an equivalent form.	All other responses

## Sample Responses

### Student Sample A



$$h = 2n + 12$$

#### SCORE RATIONALE

The response is a correct equation and earns 1 point.

### Student Sample B



$$12 + 2n = h$$

#### SCORE RATIONALE

The response is a correct equation and earns 1 point.

### Student Sample C



$$h = 12 + (n * 2)$$

#### SCORE RATIONALE

The response is a correct equation and earns 1 point.

### Student Sample D



$$h66cm n14$$

#### SCORE RATIONALE

The response is not an equation and earns 0 points.

## Student Sample E

 $14 + 2$ **SCORE RATIONALE**

The response suggests a partial understanding of the growing pattern and the height of 1 cup, but does not represent the growth pattern in equation form. The response earns 0 points.

## Student Sample F

 $8 \times 36 = 288$ **SCORE RATIONALE**

The response does not include an algebraic equation showing the relationship between variable quantities. The response earns 0 points.