

## Item 5

**Claim 4**  
**7.EE.B.4**

SAMPLE	SCORE	RATIONALE
A	0	The response includes evidence of misunderstanding the given constraints, and does not provide a coherent solution strategy. The explanation suggests a reasoning process, but does not refer to dimensions that would satisfy the requirements of the problem. The response earns 0 points.
B	2	Though this would be a very tall cup, the response includes the key elements requested in the problem. The student demonstrated mathematically that the dimensions would meet the requirements of the teacher's specifications. The response earns full credit of 2 points.
C	2	The response includes the key dimensions of the cup requested in the problem, though the cup would have an unusual shape. The student demonstrated mathematically that the dimensions would meet the requirements of the teacher's specifications. The response earns full credit of 2 points.
D	1	The student gave dimensions that would satisfy the constraints, but the response does not include an explanation of how 10 of the cups would reach a height of exactly 125 cm. The response earns partial credit of 1 point.
E	1	The student gave dimensions that would satisfy the constraints, but the response does not include an explanation of how 10 of the cups would reach a height of exactly 125 cm. A cup with these dimensions would be exceedingly tall. The response earns partial credit of 1 point.
F	1	The response includes evidence that the student had in mind a set of dimensions that would work, and a reasoning process for determining the height of 10 cups. However, the response does not include an explicit identification of the dimensions of the key parts of the cup and does not carry the explanation through to 10 cups to show that the dimensions would meet the design specifications for a stack of 10. The response earns partial credit of 1 point.
G	2	The student described the dimensions of the cup and demonstrated that the design would work by setting up an equation and substituting the appropriate values into the equation. The student accounted for the lip of the bottom cup being included in the total height of that cup by reducing the number of cups to $n - 1$ in the equation. This effectively represents a total of 10 lips in the stack. The response earns full credit of 2 points.
H	0	The student gave values that would not meet the specifications for the cup and the stack, and the number of cups does not fit the given description. The response earns 0 points.
I	1	The dimensions in this response would satisfy the constraints, but the response does not include an explanation of how the dimensions would do so. Although this can be inferred, the response earns partial credit of 1 point.

**Item 5** *(continued)***Claim 4**  
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SAMPLE	SCORE	RATIONALE
J	2	The student described the dimensions of the cup and showed that the dimensions would work algebraically with an appropriate equation. The student substituted the value 10 for the lips and the value 25 for the base. The response earns full credit of 2 points.
K	0	The student described a cup that is 1/10 of the target stack height, suggesting that he/she considered the cups independently, rather than stacked together as presented. The response does not include an explanation or dimensions that would satisfy the constraints, and earns 0 points.