

## Item 5

Claim 4  
5.MD.C.5

SAMPLE	SCORE	RATIONALE
A	2	This response provides three dimensions that satisfy the requirements. An explanation as to how these dimensions meet the height, base area, and volume constraints is also provided. This student's response demonstrates a full and complete understanding of the modeling process and Claims 4D and 4B being assessed. Full credit.
B	0	This response provides values that would satisfy two of the criteria (area and volume, or height and volume), but does not provide any explanation as to which value is which dimension, and how they meet the requirements. The absence of labels and explanation suggests a lack of comprehension of the requirements of the task. There is not enough evidence of Claim 4 Target B or D to earn any points.
C	2	This response demonstrates a full and complete understanding of the essential mathematical content and practices essential to this task. The student provided three dimensions that meet the requirements, and provided a justification for these choices that clearly demonstrates how the chosen dimensions satisfy the tank rules. The incorrect product included in the explanation (1800 square inches) is extraneous to the complete explanation given, and the response earns full credit.
D	1	This response provides three dimensions that meet all three constraints. However, the student did not provide any explanation as to how the chosen dimensions meet the requirements. The response demonstrates evidence of Claim 4 Target B, but not Claim 4 Target D, and earns partial credit of 1 point.
E	0	This response provides dimensions that meet two constraints, height of 1 foot and area of at least 400 square inches. However, the provided calculations indicate an incorrect volume for these dimensions. The student neglected to convert feet to inches for one of the dimensions. While mathematical calculations are provided, there is no written explanation to justify the choice of dimensions. With the absence of an explanation and only two correct dimensions, this response does not provide sufficient evidence of the modeling processes being assessed to earn points.
F	1	This student provides two dimensions that meet the constraints (area and volume), however the tank would not be tall enough. The explanation demonstrates a solid understanding of the problem, but unfortunately the response earns only 1 point because the chosen height does not meet the first Turtle Tank Rule.

## Item 5 (continued)

Claim 4  
5.MD.C.5

SAMPLE	SCORE	RATIONALE
G	1	This response provides three dimensions that satisfy the requirements mathematically (though a tank that is 4 inches wide would be too narrow for most pet turtles). The student stated in words what the measurements are, and included a relevant calculation, but the response does not include an explanation as to how the dimensions meet the constraints. This response demonstrates partial evidence of the modeling processes being assessed by the task, and receives 1 point.
H	0	The dimensions in this response satisfy two of the constraints (height and area), but the response does not provide an explanation for the choices. This response demonstrates merely an acquaintance with the mathematical and process skills essential to this task, and earns 0 points.