

Item 5

Claim 4
3.NF.3.

SAMPLE	SCORE	RATIONALE
A	0	The student indicated that Zela “should use $\frac{1}{3}$ for each mug,” but did not provide a calculation or plan indicating the new total amount of clay, or an explanation of how this reduction would meet the criteria for making 6 mugs and 6 bowls using no more than 12 pounds of clay. The response earns 0 points.
B	1	The student correctly determined that each bowl could be reduced to $1\frac{1}{4}$ pounds of clay, and the response includes relevant, though partial, calculations. However, the explanation lacks clarity and makes a minimal and imprecise connection between the reduced size of the bowl and the 12 pounds of clay. The response receives partial credit of 1 point.
C	0	The student response does not provide clear evidence of understanding the mathematics of the problem.
D	2	The response begins with a statement of how much clay is used by the 6 mugs and how much clay remains (from an implicit total of 12 pounds). The student reduced the bowls to 1.25 pounds of clay, and provided a calculation to show that 6 bowls using the reduced amount of clay would use exactly the remaining amount of 7.5 pounds of clay. The response concludes with a statement of the plan, including which projects to make, how many of each, and the reduced amount of clay for the bowls. The response earns full credit.
E	1	This response begins with correct statements about the amount of clay used and amount of clay remaining after 6 mugs are made. The student correctly determined that each bowl could be reduced to $1\frac{1}{4}$ pounds of clay. However, the student made a calculation error when finding the total amount of clay used by 6 of these bowls, and his/her explanation appears to confuse the $\frac{1}{4}$ pound reduction of each bowl with a $\frac{1}{4}$ pound reduction of the total amount of clay. Although there is some evidence that the student comprehended the essential mathematical idea of the problem, the explanation is unclear and is directly based on an error in a fundamental mathematical procedure. The response earns partial credit of 1 point.
F	2	The student’s calculations show a thinking process about the total amount of clay used by projects that are different sizes. This thinking appears to include consideration of bigger mugs, which use 5 pounds in total, rather than $4\frac{1}{2}$ pounds. The response shows a reasoning process that leads to a conclusion that 12 pounds is enough to support the bowls if the bowls are smaller, specifically $1\frac{1}{4}$ pounds. Although circuitous, the response presents a plan that works for Zela. The response earns full credit.
G	0	The first calculation is incorrect, though the student may have intended to write $1\frac{1}{4} \times 6 = 7\frac{1}{2}$. The response does not include a clear statement of the new size of the bowls or an explanation of the size of the bowls. The response earns 0 points.

Item 5 *(continued)***Claim 4**
3.NF.3.

SAMPLE	SCORE	RATIONALE
H	1	The student converted the fractions into decimals and determined that the bowls should be reduced to 1.25 pounds in order for 6 bowls to equal 7.5 pounds. While the student's calculations are accurate and result in an appropriate amount of clay for each small bowl, the student did not provide a plan or an explanation of the calculations. The response earns 1 point.
I	2	The student reduced the size of the bowls to 1 pound each and stated the total amount of clay used by 6 of these bowls. The student then reported adding this amount (6 pounds) to the total for the mugs ($\frac{3}{4}$ added 6 times) and finding the overall pounds of clay used, which is less 12 pounds. Although this plan does not reflect a rigorous attempt to "use as much of the clay as possible," it is perfectly reasonable within the context and fits the requirements to a degree appropriate for grade 5. The response includes both clear reasoning and the relevant specific values to support the plan. The response earns full credit.