

The following page includes the answer key for all machine-scored items, followed by the rubric for the hand-scored item.

- The rubric shows sample student responses. Other valid methods for solving the problem can earn full credit unless a specific method is required by the item.
- In items where the scores are awarded for full and partial credit, the definition of partial credit will be confirmed during range-finding (reviewing sets of real student work).
- If students make a computation error, they can still earn points for reasoning or modeling.

Unit 1

Item Number	Answer Key	Evidence Statement Key/Content Scope
1. VR105631	C	5.NBT.B.5
2. VR105654	D, F	4.NF.B.3b
3. VR105633	18,500	5.MD.A.1
4. VR109341	A	5.G.A.1; 5.G.A.2
5. VR109465	D	5.NF.A.1-1
6. VR109361	D	5.OA.A.2
7. VR109409	C	5.NF.B.6
8. VR109419	B	5.NBT.A.3a
9. VR109433	C	5.G.A.1; 5.G.A.2

Unit 2

Item Number	Answer Key	Evidence Statement Key/Content Scope
1. VR105652	See rubric	5.M.1

Rubric starts below.

Modeling Item: (Small boxes in cartons)	
	<p>Model Solution</p> <p>The volume of each small box is $6 \times 6 \times 4 = 144$ cubic inches. The volume of each carton is $36 \times 36 \times 36 = 46,656$ cubic inches. Since there are 972 small boxes, a total of $144 \times 972 = 139,968$ cubic inches of space is needed. $139,968 \div 46,656 = 3$; 3 cartons are needed.</p> <p>OR</p> <p>Since $36 \div 6 = 6$, $36 \div 6 = 6$, and $36 \div 4 = 9$ so 6 boxes would fit along the length, 6 boxes would fit along the depth, and 9 boxes would fit along the height. Then the total number of small boxes in each carton is $6 \times 6 \times 9 = 324$ boxes. Dividing 972 boxes by 324 boxes = 3 cartons.</p> <p>Scoring</p> <p>A complete response consists of the following three components: The student provides sufficient evidence of understanding that the volume of one small box and the carton should be calculated OR that the number of boxes that fit in each carton should be calculated. The student provides sufficient evidence of understanding that the total volume of the carton should be divided by (the volume of each small box \times 972) OR that the total number of boxes should be divided by the number of boxes that fit in 1 carton. NOTE: this component is satisfied if the student correctly used one or more incorrect values. The student provides the correct answer of 3 cartons. NOTE: This component is satisfied if the student correctly used incorrect volumes and/or numbers of boxes. NOTE: Units are not required to satisfy this component.</p>
3	The response includes three components listed above.
2	The response includes two of the three components listed above.
1	The response includes one of the three components listed above.
0	The response includes none of the three components listed above.