

### Scores and Commentary: Paper 1: Chocolates

Making Sense of the Task	Representing and Solving the Task	Communicating and Reasoning	Accuracy	Reflecting and Evaluating
6	6	6	6	6

**Making Sense of the Task:** The student interprets the task as a rate problem and states they are going to use a proportion to solve it. He/she shows an understanding of rate using the diagram and also shows an understanding of how to connect the rate to a proportion. The student is also able to flexibly interchange  $\frac{1}{4}$  with 0.25. All of this, combined with the connection to another context (I usually use proportions to solve rate problems, for example...) makes this paper thoroughly developed and enhanced.

**Representing and Solving the Task:** The strategy of drawing the visual quarter portions to show that there are 10 portions of  $\frac{1}{4}$  in 2.5 pounds is effective and complete. It is enhanced when the student generalizes the problem into a “rate” problem and states that they “usually use proportions” to solve this type of problem. The student is able to generalize how to solve a proportion by giving the second example with the pushups.

**Communicating and Reasoning:** The student uses precise mathematical language (rate and proportion). The communication is enhanced by showing the labels for the numbers in the proportion, the clearly labeled diagram, and all the places where the student takes time to explain their steps (cross multiply, simplify, etc...).

**Accuracy:** The solution is correct and clearly stated. It is enhanced by the connection between the diagram and the proportion, as well as the student’s ability to generalize the problem as a rate problem. The additional context also helps to enhance the solution.

**Reflecting and Evaluating:** The solution was stated in the context of the problem. The student worked the problem using two methods (the diagram and the proportion) and commented on his/her general approach for these types of problems (rate problems).

### Scores and Commentary: Paper 3: Chocolates

Making Sense of the Task	Representing and Solving the Task	Communicating and Reasoning	Accuracy	Reflecting and Evaluating
4	4	4	4	4

**Making Sense of the Task:** the problem was adequately developed and displayed showing there are 10 groups of  $\frac{1}{4}$  pounds of chocolate which indicates proportional thinking.

**Representing and Solving the Task:** Effective and complete strategies were applied as shown by multiplying the 10 parts by \$1.39 to arrive at the answer of \$13.90.

**Communicating and Reasoning:** A clear and coherent path is shown throughout the work sample leading to the clearly identified solution: "It will cost Tom \$13.90."

**Accuracy:** The solution \$13.90 is a mathematically justifiable solution to the task and is supported by the work.

**Reflecting and Evaluating:** The student reviews and reflects on the reasonableness of the strategies throughout the work sample by checking the original mental calculations ( $\frac{1}{4} \times 10/1 = 2 \frac{1}{2}$ ) and by working backwards: "I will check by working backwards."

### Scores and Commentary: Paper 4: Chocolates

Making Sense of the Task	Representing and Solving the Task	Communicating and Reasoning	Accuracy	Reflecting and Evaluating
4	3	3	4	2

**Making Sense of the Task:** The concept of knowing that  $\frac{1}{4} \times 10 = 2 \frac{1}{2}$  is adequately developed. The student knew to take  $10 \times \$1.39$  (the 10 representing how many  $\frac{1}{4}$  lbs).

**Representing and Solving the Task:** The representation is only partially complete. The use of mathematical symbols does not show where the 10 comes from. If  $2 \frac{2}{4} = 10/4$  had been shown, it could have been a 4.

**Communicating and Reasoning:** There is evidence of only partial communication of the process with significant gaps. There is a gap in that there is no clear explanation of how 10 was derived.

**Accuracy:** \$13.90 a mathematically justifiable solution to the task. The work supports it.

**Reflecting and Evaluating:** The checking of one calculation is a partial attempt to work backwards, but does not justify how 10 connects to the problem and solution process.