

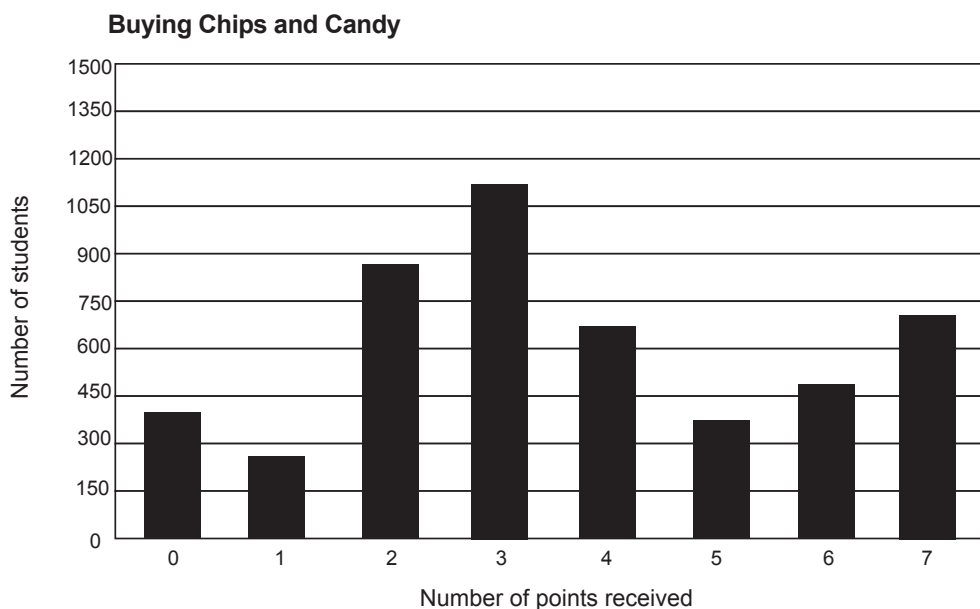
**Buying Chips and Candy**  
**Grades 9–10**  
**Algebra**  
**Comparison Data: Trends and Patterns**

**Description of Task**

This task asks students to form and solve a pair of linear equations in a practical situation.

**Performance Data**

The graph and table below show the number and percentage of students who received the corresponding number of points on the task. The maximum number of points available for this task is seven.



number of points received	0	1	2	3	4	5	6	7
# of students receiving corresponding # of points	392	283	880	1123	664	373	464	703
% of students receiving corresponding # of points	8.0%	5.8%	18.0%	23.0%	13.6%	7.6%	9.5%	14.4%

**Examining Student Work: Trends and Patterns of Understanding**

Fourteen percent of the students could use algebra to solve two equations with two unknowns, using substitution or multiplication/addition. Eight percent of the students scored no points on this task. Eighty percent of the students with this score attempted the task. Most students, 86%, could determine how to write an equation in part 2. Many students, 68%, could write an equation and explain that the units had changed from dollars to cents or determine whether there was enough money to buy the chips and candy. A little

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less than half the students could write the equation, determine the units, and write a justification about having or not having enough money to purchase the snacks.

*In summary, this is what students were able to do:*

- Write an equation from context and understand what the variables represent
- Use guess and check successfully as a strategy to find a solution for two equations with two unknowns
- Use substitution or multiplication/addition to solve for the unknowns

*Students struggled with the following:*

- Quantifying answers to justify a conjecture
- Using distributive property correctly in solving a problem
- Identifying which equation and which unknown would be easiest to use when applying the substitution method
- Using partially remembered strategies without carrying them through the entire solution process or unsuccessfully combining strategies
- Checking work with both equations to see if the solution is true for both
- Understanding that functions have multiple solutions

## **Implications**

(a) Curriculum

(b) Instruction

(c) Assessment

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