Challenge

Planning Notes

- This Challenge is designed to provide students with a framework for organizing their algebraic problem solving.
- Read the introduction together as a class and discuss the information in detail before students begin the Challenge.
- Use the rubric to review expectations.

Common Errors

- Students may write only the answer.

R$_x$ Encourage students to verbalize how to solve a problem. Review symbols to use for certain words. Then, help them write their description in short symbolic form or algebraically. Ensure that students write their steps to show how they arrive at the final answer.

The chart below shows the Rubric for the Challenge and provides notes that specify how to identify the level of specific answers for this project.

Score/Level	Holistic Descriptor	Specific Question Notes
5 **(Standard of Excellence)**	❑ Applies/develops **thorough** strategies and mathematical processes for making **significant** comparisons/connections that demonstrate a **comprehensive** understanding of how to develop a complete solution ❑ Procedures are **efficient** and **effective** and may contain a **minor mathematical error** that does not affect understanding ❑ Uses **significant** mathematical language to explain their understanding and provides **in-depth** support for their conclusion	• provides a complete and correct solution
4 **(Above Acceptable)**	❑ Applies/develops **thorough** strategies and mathematical processes for making **reasonable** comparisons/connections that demonstrate a **clear** understanding ❑ Procedures are **reasonable** and may contain a **minor mathematical error** that may hinder the understanding in one part of a complete solution ❑ Uses **appropriate** mathematical language to explain their understanding and provides **clear** support for their conclusion	• provides a complete response to all parts with weak justification *or* • provides a complete response to all parts with a minor calculation error that may affect the overall answers but not the understanding of the problem *or* • provides a correct response to #5 and #6
3 **(Meets Acceptable)**	❑ Applies/develops **relevant** strategies, mathematical processes making **some** comparisons/connections that demonstrate a **basic** understanding ❑ Procedures are **basic** and may contain a **major mathematical error** or **omission** ❑ Uses **common** language to explain their understanding and provides **minimal** support for their conclusion	• provides correct and complete responses to #1 to #3; the profit may not be close to the actual profit, but the solution demonstrates a basic understanding of the problem *or* • provides correct and complete responses to #2 to #4 based on an incorrect #1 *or* • provides correct partial solutions to all parts of the exercise *or* • provides only answers without supporting work
2 **(Below Acceptable)**	❑ Applies/develops **some relevant** mathematical processes making minimal comparisons/ connections that lead to a **partial solution** ❑ Procedures are basic and may contain several major mathematical errors ❑ Communication is **weak**	• provides correct and complete responses to #1 and #2 *or* • provides correct and complete responses to #1 and #3 *or* • provides a correct response to #4
1 **(Beginning)**	❑ Applies/develops an **initial start** that may be **partially correct** or could have led to a correct solution ❑ Communication is **weak** or **absent**	• provides a correct start or full response to #1 *or* • provides a correct response to #2 based on an incorrect #1 *or* • provides a correct start to #4