Challenge

Planning Notes

- Discuss the meaning of a single elimination draw. What happens if you lose a game?
- Start by demonstrating draws for two players, four players, eight players, and so on.
- Demonstrate what happens if you have seven players. Discuss the meaning of *bye*.
- Have students discuss and develop the use of the power of 2 in creating the draws.
- Encourage students to look at single elimination draws on the Internet. For example, curling competitions, physical education programs, or inter-school sports tournaments may have byes.

Common Errors

- Some students may have difficulty using the power of 2 to develop single elimination draws.

R_x Use **BLM 3–9 Chapter 3 Challenge** and have student fill in competitors' names to determine the winner(s). Review the scenarios with 10 players versus 16 players.

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 ❑ Uses **efficient** and **effective** procedures that may contain a **minor mathematical error** that does not affect understanding ❑ Uses **significant** mathematical language to explain understanding and provides **in-depth** support for the 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 ❑ Uses **reasonable** procedures that may contain a **minor mathematical error** that may hinder the understanding in one part of a complete solution ❑ Uses **appropriate** mathematical language to explain understanding and provides **clear** support for the conclusion	• provides a complete response to all parts of the exercise with weak or missing justification in one part *or* • provides a complete and correct response with one error in #2 or #4, but the error does not hinder the understanding of the conclusion
3 **(Meets Acceptable)**	❑ Applies/develops **relevant** strategies and mathematical processes for making **some** comparisons/connections that demonstrate a **basic** understanding ❑ Uses **basic** procedures that may contain a **major mathematical error** or **omission** ❑ Uses **common** language to explain understanding and provides **minimal** support for the conclusion	• correctly completes three of the questions with a correct initial start to a fourth question *or* • provides correct partial solutions to all questions with some communication and justification
2 **(Below Acceptable)**	❑ Applies/develops **some relevant** mathematical processes for making minimal comparisons/ connections that lead to a **partial solution** ❑ Uses **basic** procedures that may contain several major mathematical errors ❑ Communication is **weak**	• provides a correct response to two questions
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 response to #1 *or* • provides a correct response to at least four steps in #4 *or* • provides a correct response to #5 based on an incorrect #4