



Name \_\_\_\_\_

Date \_\_\_\_\_

Class \_\_\_\_\_

**Algebra Success Unit 1 Performance Task:**  
**Best Basketball Player?**

Name \_\_\_\_\_

Date \_\_\_\_\_

Class \_\_\_\_\_

***Teacher Overview:***

In this project, students work to compare two sets of basketball point data in order to make a decision about which player is the best player to recruit. However, students will make a choice about this, as one player averages a higher number of points per game, with greater variability, while the other player averages a lower number of points per game, with a smaller variability.

Students will have to ultimately make a decision whether they want to have a player with a higher average, with a higher variability (meaning less consistency), or a one with a lower average, and lower variability (meaning more consistency).

Mathematically, students will have to be able to create and interpret a box plot, and extrapolate meaningful information to make a decision about the best recruit. They will have to make meaning of all points of a box plot, and make meaning of its size before making a decision.

In order to support students in this project, be explicit about all of the components necessary to be in the report, and provide reference sheets to complete the many skills necessary to complete the project. In addition, consider allowing students to use online resources like Desmos to complete the graphs and tables quickly. For students that struggle with writing, be sure to provide them with graphic organizers in order for them to organize their thoughts and sentence frames for them to complete their paragraphs.



### **Day to Day Breakdown:**

#### Day #1 - Project Introduction

- On this day, students will be introduced to the task that they are completing, and will be allowed to ask any questions related to the task and the context of the problem. It is critical that students are grappling with the ambiguity of the task, and we are not over scaffolding the task for students. Students should begin creating a game plan on how to break down this task day-by-day in order to submit a complete assignment by Day #5.
  - DUE: N/A

#### Day #2 - Working on Rough Draft

- On this day, students are working with each other and with the teacher to submit a rough draft of the report and box plot. Students that need additional support should be pulled in small groups for intentional remediation. For students that struggle with organization, consider having students submit a project plan that highlights what they are scheduled to work on for each day of the project
  - DUE: Optional Project Plan Submission

#### Day #3 - Rough Draft Submission

- On this day, students should submit their rough draft of their project. If students are completing their assignments on the computer, they should hand in an outline, or another form of the final assignment, which you are able to provide feedback on. It is critical that all students submit their draft this day, and that feedback is given to all students
  - DUE: Rough Draft

#### Day #4 - Rough draft Revision

- On this day, students should receive their rough drafts with comments attached to them for revision purposes. They should work with each other to enact the feedback and submit the final draft the following day.
  - DUE: N/A

#### Day #5 - Final Draft Submission

- Finally, on this day, students should submit their final draft of their assignments, with feedback implemented. All virtual submissions should be completed
  - DUE: Final Draft Submission



***Student Overview:***

Arielle and Kristina both enjoy playing basketball and hope to be drafted to play in the NCAA. There have been 15 matches this year. These are the scores for Arielle:



32	19	22	17	28	29	11	19	21	27
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Arielle averages 22.5 points per game.

Here is a box plot for Arielle's scores:



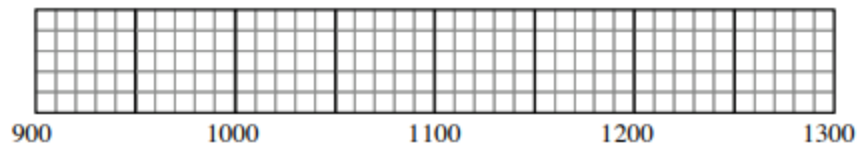
These are the scores for Kristina:

19	21	20	22	23	18	19	17	19	21
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Kristina averages 19.9 points per game.

**YOUR MISSION:** You are a college level scouting agent and your job is to recruit the best player for your team. You must pitch your idea to the coach that explains which player would be best for the team. In your pitch, be sure to:

- Draw a boxplot for Kristina's scores.
- Explain the main points on your boxplot for each of the players.
- Explain who you believe is the most consistent player and why. Please use at least two measures of variability in your response.
- Your choice for the player that should be recruited to the team. Be sure to include mathematical evidence to support your choice.



*Your pitch could be in many forms, including PowerPoint, poster, a paper, a video presentation, a podcast (with separate visuals)*



***Rubric:***

<b>Score</b>	<b>Box Plot + Analysis</b>	<b>Consistent Player Analysis</b>	<b>Player Recommendation Analysis</b>
<b>4</b>	<ul style="list-style-type: none"><li>• Students created a completely correct box plot for Kristina's score.</li><li>• Students correctly explained all of the main points of both box plots.</li></ul>	<ul style="list-style-type: none"><li>• An explanation that correctly demonstrates which player is the most consistent, citing correctly at least two measures of variability.</li></ul>	<ul style="list-style-type: none"><li>• An explanation that identifies which is the best player and correctly cites at least 2 pieces of statistical data in the response.</li></ul>
<b>3</b>	<ul style="list-style-type: none"><li>• Students created a mostly correct box plot for Kristina's score.</li><li>• Students correctly explained most of the main points of both box plots.</li></ul>	<ul style="list-style-type: none"><li>• An explanation that correctly demonstrates which player is the most consistent, citing correctly one measure of variability.</li></ul>	<ul style="list-style-type: none"><li>• An explanation that identifies which is the best player and correctly cites at 1 piece of statistical data in the response.</li></ul>
<b>2</b>	<ul style="list-style-type: none"><li>• Students created a partially correct box plot for Kristina's score.</li><li>• Students correctly explained some of the main points of both box plots.</li></ul>	<ul style="list-style-type: none"><li>• An explanation that incorrectly demonstrates which player is the most consistent, citing incorrect measures of variability.</li></ul>	<ul style="list-style-type: none"><li>• An explanation that identifies which is the best player and does not cite any piece of statistical evidence in the response.</li></ul>
<b>1</b>	<ul style="list-style-type: none"><li>• Students created a mostly incorrect box plot for Kristina's score.</li><li>• Students incorrectly explained most or all of the main points of both box plots.</li></ul>	<ul style="list-style-type: none"><li>• NO explanation that incorrectly demonstrates which player is the most consistent, not citing measures of variability.</li></ul>	<ul style="list-style-type: none"><li>• No explanation that identifies which is the best player and does not cite any piece of statistical evidence in the response.</li></ul>