**Planning for Mathematical Discourse – Algebra I – The Full Parking Lot**

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| **Teacher Completes Prior to Task Implementation** | | | **Teacher Completes During Task Implementation** | |
| **Anticipated Student Response/Strategy**  *Provide examples of possible correct student responses along with examples of student errors/misconceptions* | **Assessing Questions – Teacher Stays to Hear Response**  *Teacher questioning that allows student to explain and clarify thinking* | **Advancing Questions – Teacher Poses Question and Walks Away**  *Teacher questioning that moves thinking forward* | **List of Students Providing Response** *Who? Which students used this strategy?* | **Discussion Order - sequencing student responses**   * *Based on the actual student responses, sequence and select particular students to present their mathematical work during class discussion* * *Consider ways to ensure that each student will have an equitable opportunity to share his/her thinking during task discussion* |
| **Anticipated Student Response:**  Guess and check.  \*This strategy will obtain a correct solution, but would not be course appropriate for mathematical understanding. | What assumptions did you make about the number of wheels?  What’s going on in this situation? | How can you take your original trial and get closer without trying all options?  What are you noticing? |  |  |
| **Anticipated Student Response:**  Drawing a picture – 20 spaces w/ number of wheels per space.  \*This strategy will obtain a correct solution, but would not be course appropriate for mathematical understanding unless there is further support. | How did you decide what to draw?  What’s going on in this situation? | How could you simplify your picture?  How many wheels have to be in every space? | **Student E**  **Student F** |  |
| **Anticipated Student Response:**  student chart sample  Possible Misconception: students might start with 10 and 10, but go up in both columns, forgetting there are only 20 parking spaces. | How did you decide where to begin your table?  How many parking spaces are you allowed? | How can you take your original trial and get closer without trying all options?  Do you see any patterns in your table? | **Student E**  \*This student does not actually make a table, but explains how they did begin their process with 10 of each type of vehicle. |  |
| **Anticipated Student Response:**  Solve an equation/or a system of equations using substitution:    Possible Misconception: students may struggle to define their second vehicle type in terms of the first. | Explain how you came up with the parts of your equation.  Why did you choose to define motorcycles (or cars) in terms of the other vehicle? | Is this the only equation that would work?  How can you use the number of parking spaces within the equation? | **Student A**  **Student C** |  |
| **Anticipated Student Response:**  Write and solve a system of equations by graphing:  Possible Misconception: Students often see how to relate the number of wheels, but struggle with the first equation. | What do your variables represent?  How many parking spaces do you have to work with? | Can you solve this system in more than one way?  How can you incorporate the number of parking spaces in an equation? | **Student D** |  |
| **Anticipated Student Response:**  Write and solve a system of equations by elimination:  Possible Misconception: Students often see how to relate the number of wheels, but struggle with the first equation. | What do your variables represent?  How many parking spaces do you have to work with? | Can you solve this system in more than one way?  How can you incorporate the number of parking spaces in an equation? | **Student B** |  |