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Grade 8 Integrated Math

April 10, 2017

**Round Sheet**

**Background:**

As the third quarter came to a close last Friday, so did our two-week study of the Pythagorean Theorem. Heading into the final quarter of the school year and quickly approaching testing season, students will spend the next two weeks exploring transformations, their last extended unit before MCAS.

One of my biggest struggles throughout this year has been finding a balance between discovery-based activities in which students develop a conceptual understanding of the material (usually through a real-world scenario) and skills-based practice in which students reinforce that understanding. As students worked with linear equations for the first half of the year, I focused so heavily on analyzing real-world scenarios that my students often ended up struggling to transfer that understanding to concrete math problems. Over the last few weeks, I felt that I went too far in the other direction with too much decontextualized skills-based work on square roots and the Pythagorean Theorem.

**Round Focus:**

Going into this last major unit, I am hoping to achieve more of a balance. I want my students to see that transformations, and the language associated with them, are just mathematical ways to describe everyday movements more precisely. For today’s starter, students will watch a short clip of Ms. Pacman moving through a maze and will be asked to describe her movements. By showing them subsequent videos that expose the impreciseness of the language that I have anticipated they will use, students will see that in order to accurately describe someone or something’s movements, they need to be as specific as possible. Throughout the rest of the unit and starting in today’s lesson, they will understand that, through transformations, mathematics provides the language to meet this need.

After this need for transformations is established, students will work in groups to begin discovering the effect of the four different transformations (translations, reflections, rotations, and dilations) on a shape. Each student in a group will plot the coordinates for the same original shape (the “pre-image”) and then plot the coordinates for a shape (the “image”) obtained from a specific transformation; each student will have a different transformation, although they will not know the type of transformation they have. Next, all group members will look at each other’s graphs and describe and record the changes they see in the coordinates and shape of the images as compared to the pre-image. Tomorrow we will come up with the definitions of each transformation as a class by building off what they noticed.

Learning-Centered Round Inquiry

1. As students work individually and collaboratively on the Points of Interest activity, what do they notice about the different shapes and coordinates? What sort of language do they use to describe the changes they see?

Practice-Centered Round Inquiry

1. Do the series of Ms. Pacman videos allow students to recognize and correct their own misconceptions about movement? Record evidence.
2. When it is time for students to talk to each other about their different shapes and fill in their tables together, do all students contribute something to the discussion? Record evidence of this collaboration or lack of collaboration.