Would You Rather ...

Algebra I: Polynomial Operations
Standard 2: Patterns, Functions, and Algebraic Structures

Learning Goals:
> Identify different representations of polynomial products
> Model binomial by trinomial multiplication using an area model
> Compare the area model to the FOIL method

Warm Up (5-10 mins):
> Play "Would you rather..." game having students move to one side of the room or the other. Use these prompts and/or create your own.
> - Would you rather have only two close friends or many acquaintances?
> - Would you rather be known as the best student in your school or be the captain of one of the sport teams?
> - Would you rather always have to sing instead of speaking or dance everywhere you went?
> - Would you rather save your country from an invasion or from a terrible disease?
> - Would you rather be very short or extremely tall?
> - Would you rather have overly large hands or very small feet?
> - Would you rather eat a small can of dog food or six overripe bananas?
> - Would you rather have to eat a bowl full of worms or a live frog?
> - Would you rather live without your phone for two weeks or your computer for a month?
> - Would you rather be the teacher at your school or the janitor?
> - Would you rather be invisible or be able to fly?
> - Would you rather lose your ability to speak or have to say everything you are thinking?
> - Would you rather live on a plant or beneath the sea?
> - Would you rather have to listen to music all of the time or not be able to listen to music at all?
> - Would you rather have live one hundred years in the future or one hundred years in the past?
> - Would you rather be the best player on a losing team or the worst player on a winning team?
> - Would you rather have extremely small freakishly eyes or an extremely large nose?

- Would you rather give a speech to the whole school, including teachers, for 30 minutes or work in the school cafeteria for a semester?

Simulation Introduction (10-15 mins):

Distribute the activity sheet which is copied on two different colored papers evenly per table.

Students will play with the Explore screen of the [Area Model Algebra simulation](#) recording three things they discovered on the activity sheet.

Students will play with the Generic screen of the simulation recording three "new" things they discovered on the activity sheet and how they connect to the discoveries from the Explore screen. Be sure students have clicked on ALL the buttons, checked ALL the boxes, open/closed ALL the windows, and explored ALL the drop down options. Students should be showing/telling others what they have discovered at their tables.

Ask students to predict how/what the Variables screen of the simulation will add to their learning. After recording those ideas, discuss with a partner at your table. Each pair of students will then share out with the whole class. Be sure the discussion includes how the interior numbers are calculated and how they relate to the total.

Guided Exploration (20-25 mins):

Students will solve a binomial multiplication problem on the activity sheet using the FOIL method. Then solve it again using the area model. Students may check their work using the simulation. Record one pro and one con for each method.

Students will solve a binomial by trinomial multiplication problem on the activity sheet using the FOIL method. Then solve it again using the area model. Students may check their work using the area model. Record one pro and one con for each method.

When students have completed #5, then they should go to the Game screen.

Discussion and Summary (10-15 mins):

Students will list 3 reasons why each method is better than the other. With their reasons recorded, students will stand on either side of the room based on the color of their paper (ie. yellow=FOIL, blue=area). As a group, determine why you would rather use your assigned method and present it to the "other" side. The goal is to convince a student "they would rather" use your method.

Exit Ticket (3-5 mins):

On an index card of the same color as the activity sheet, tell why you would rather use your assigned method or the other method.