NAME _____ DATE _____

Scenario

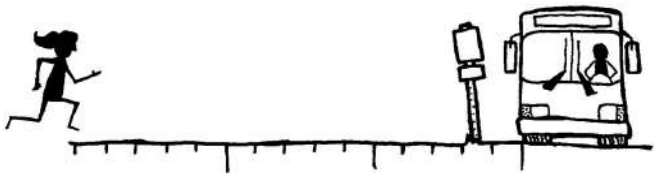
Angela is running to the bus 15 *meters away.*

Using Representations

PART A: On the diagram to the right, label Angela's position with zero meters and label the position of the bus door 15 meters. Label the marks between Angela and the bus with appropriate position values.

Based on the labels along the axis in the diagram above, what direction (left or right) should be labeled positive? Label this direction on the diagram using an arrow (vector).

PART B: If the positive direction was labeled as the opposite direction of what you chose in Part A, think about how the locations of the labels for 0 meters and 15 meters would change. Relabel the diagram at right, with the positive direction pointing the opposite way as in Part A. Include position values along the bottom of the scale.



Argumentation

PART C: You are asked to make a ***claim*** about the *physical meaning* of Angela's *displacement* in Part B. Fill in the blanks below to complete the Claim, Evidence, and Reasoning paragraph.

Evidence: When Angela gets to the bus, her position is _____ (number) meters.

Angela's initial position was _____ (number) meters.

Reasoning: Displacement is equal to the final position minus the initial position.
$\Delta x = x_f - x_i$ or $\Delta x = x - x_f$

Claim: Therefore, Angela's displacement is _____ (number) meters minus _____ (number) meters

which equals _____ (number) meters.

Data Analysis

PART D: How does the displacement in Part C compare to the displacement in Part A?

PART E: If Angela ran to the bus and back to where she started, what distance would she travel? Compare that to her displacement.