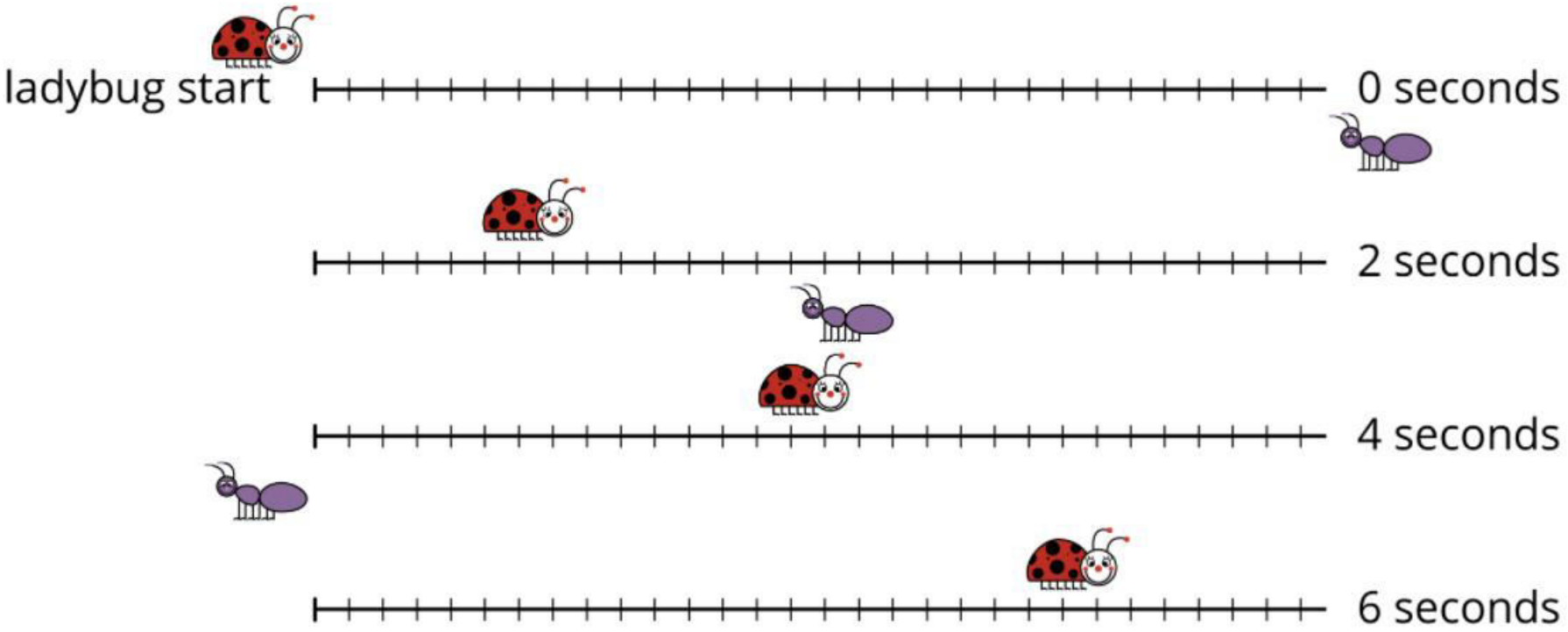
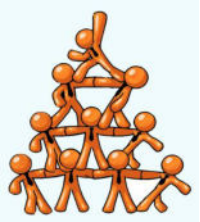
4-11: Learning Goals

- Let's use lines to think about situations.

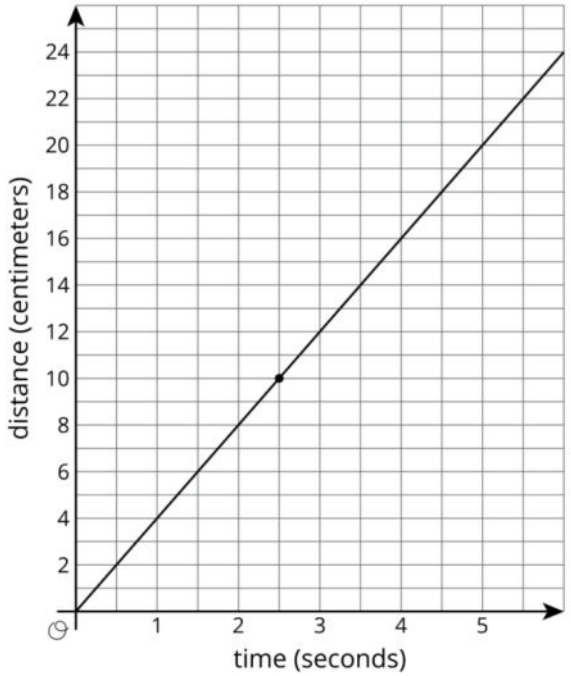
4-11-1: Bugs Passing in the Night





4-11-2: Bugs Passing in the Night, continued

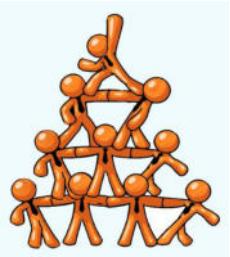
A different ant and ladybug are a certain distance apart, and they start walking toward each other. The graph shows the ladybug's distance from its starting point over time and the labeled point $(2.5, 10)$ indicates when the ant and the ladybug pass each other.



The ant is walking 4 centimeters per second.

1. Write an equation representing the relationship between the ant's distance from the ladybug's starting point and the amount of time that has passed.

2. If you haven't already, draw the graph of your equation on the same coordinate plane.

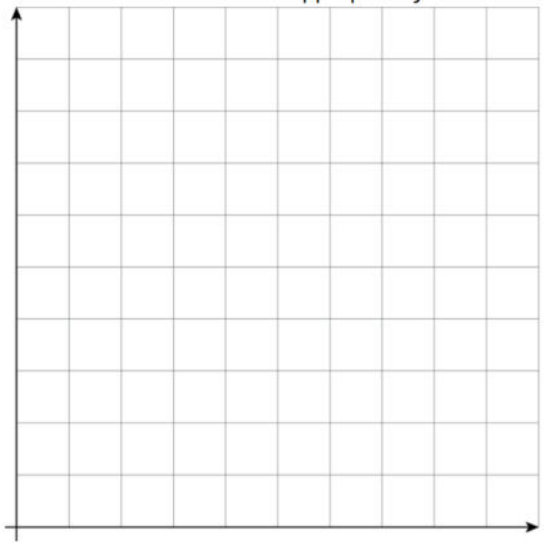


4-11-3: A Close Race

Elena and Jada were racing 100 meters on their bikes. Both racers started at the same time and rode at constant speed. Here is a table that gives information about Jada's bike race:

time from start (seconds)	distance from start (meters)
6	36
9	54

1. Graph the relationship between distance and time for Jada's bike race. Make sure to label and scale the axes appropriately.

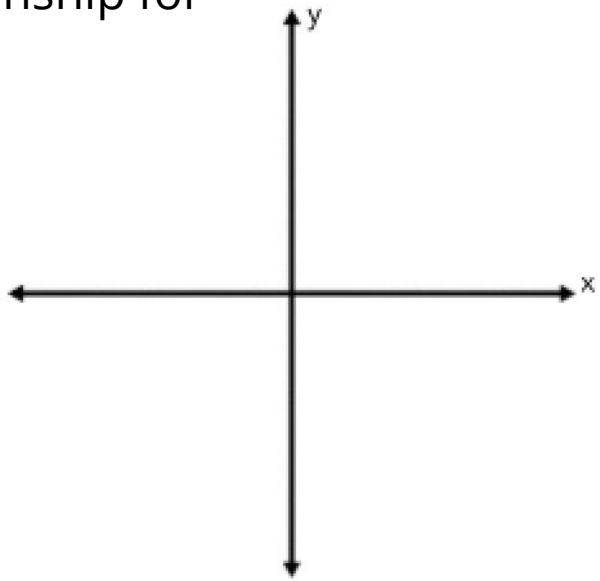


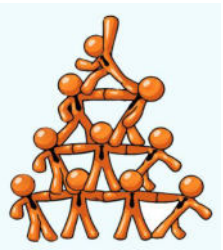
2. Elena traveled the entire race at a steady 6 meters per second. On the same set of axes, graph the relationship between distance and time for Elena's bike race.

3. Who won the race?

4-11: Lesson Synthesis

- A line goes through the point (2,5) and has a slope of 1.5. What is an equation for this line?
- A second line goes through the point (2,5) and has a y-intercept of (0,10). What is an equation for this line?
- What does the point (2,5) represent for these lines?
- A third line goes through this same point. How would that show up in a table representing the relationship for the third line?





4-11: Learning Targets

- I can use graphs to find an ordered pair that two real-world situations have in common.

4-11-4: Saving Cash

Andre and Noah started tracking their savings at the same time. Andre started with \$15 and deposits \$5 per week. Noah started with \$2.50 and deposits \$7.50 per week. The graph of Noah's savings is given and his equation is $y = 7.5x + 2.5$, where x represents the number of weeks and y represents his savings.

Write the equation for Andre's savings and graph it alongside Noah's. What does the intersection point mean in this situation?