

M101: Linear Equations - Concepts and Skills

Post-Badge Task

Name: _____

Teacher: _____

Reflecting on Badge Learning

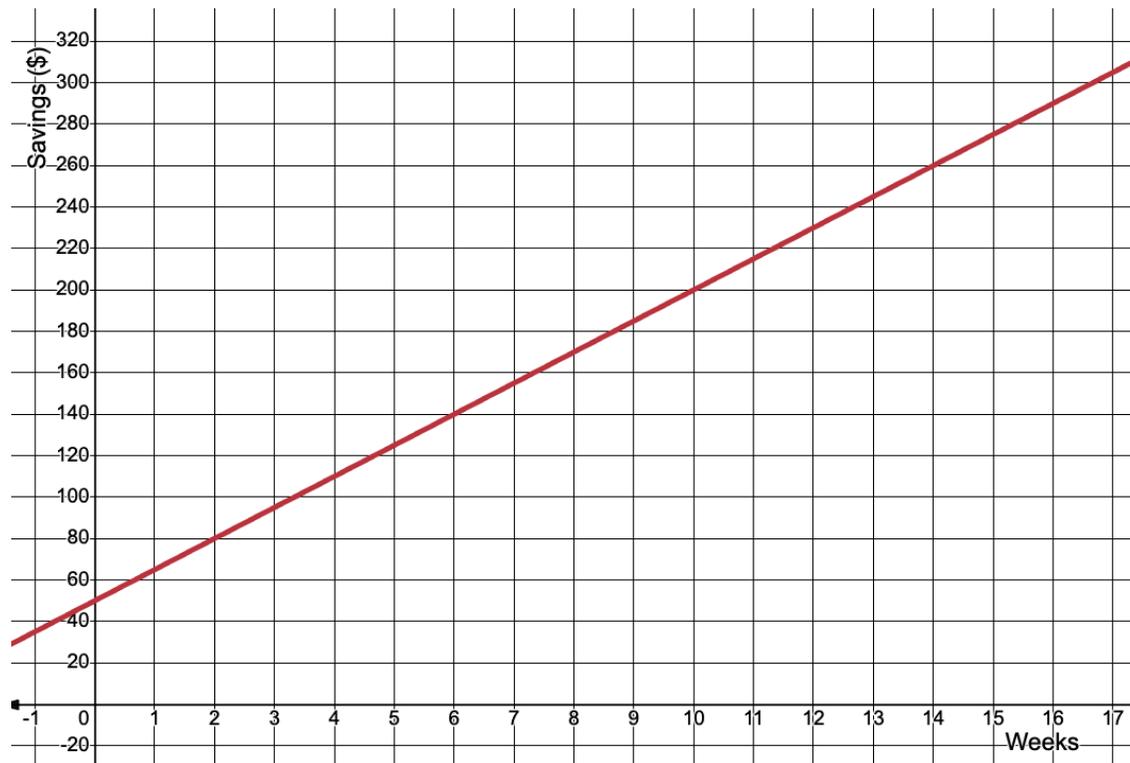
Now that you have learned more about linear functions and their characteristics, respond to the questions that follow. These are the same questions you responded to before the start of this badge.

The Task

Luka and his friend, Raquel, are both saving for new e-bikes.

Luka currently does not have any money, but is going to start saving \$20 a week.

Raquel's savings are shown on this graph:



QUESTION 1 This task is about e-bikes. Do some research! Report on the following questions:

- What is an e-bike?
- What is the cost of some of the most expensive e-bikes?
- What is the cost of some of the least expensive e-bikes?
- Do you notice any significant differences between the very expensive e-bikes and the less expensive e-bikes? What are they?
- Did you find an e-bike that you might want to purchase? If so, what did you like about it?



QUESTION 2 Write an equation to represent Luka's savings over time. Describe what the variables you choose in your equation represent in the context of this problem.



QUESTION 3 How much money will Luka have after 3 weeks? How do you know?



QUESTION 4 How much money does Raquel save each week? How do you know?



QUESTION 5 Luka tells Raquel that they are saving at the same rate because after 10 weeks, they will both have \$200. Do you agree or disagree with Luka? Graph Luca's savings and use the graph to justify your answer.



QUESTION 6 After how many weeks will each person be able to afford an e-bike that costs \$300?



QUESTION 7 If you were going to start saving for a new bike, which one would you choose? How much does it cost? What math would you use to plan? Why?



QUESTION 8

- a. What is an example of a question you could ask where you would find Raquel's graph more useful to answer it than Luka's equation?
- b. What is an example of a question you could ask where you would find Luka's equation more useful to answer it than Raquel's graph?
- c. Are there any questions you could ask where it wouldn't matter to you whether you had a graph or an equation?



QUESTION 9 What else did you learn that was not reflected in Questions 1-8?



QUESTION 10 Compare your answers to these questions now to your answers from the earlier attempt. What do you notice about your progress?

