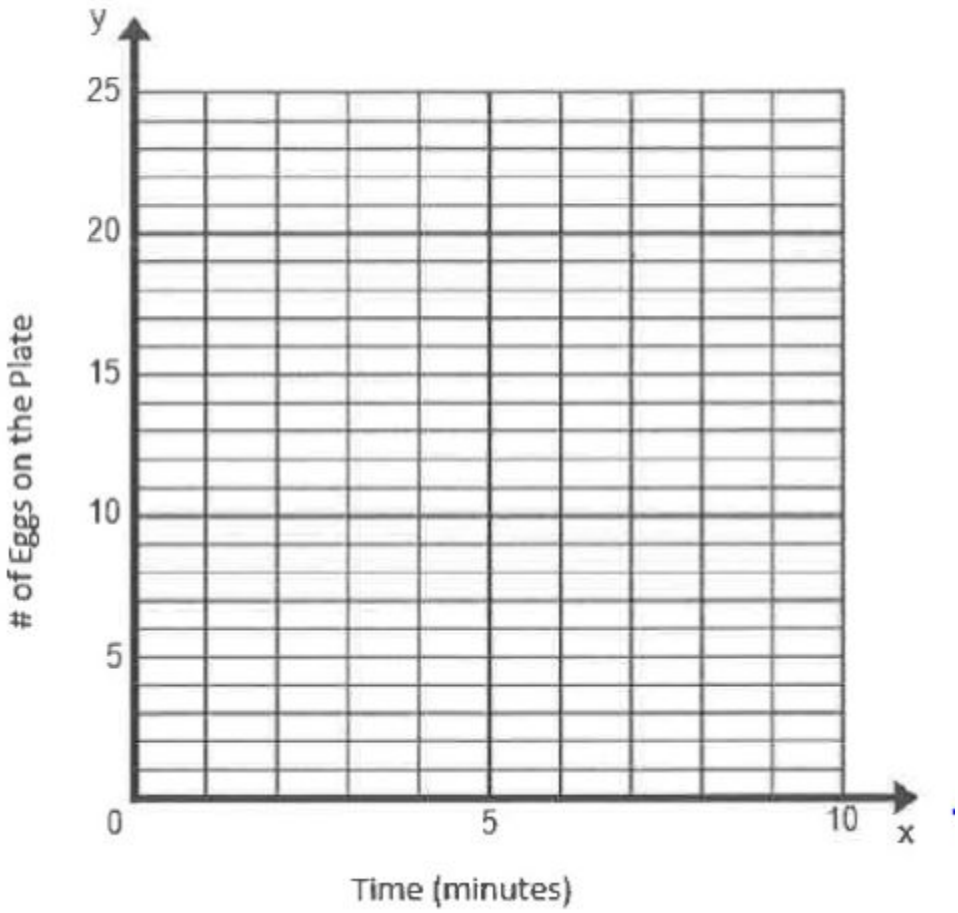
2.1 Practice: Key Features of Linear Graphs

Example 1: Whitney enters an egg eating contest. She eats them at a rate of 4 per minute. When the contest begins, Whitney's plate has 20 eggs on it.

X	0	1	2	3	4
Y					



1.Use the scenario to create data points. Create a table and a graph of this data.

2. Is this situation discrete or continuous data? Should we connect these points with a line?

3. What is the rate of change?

4. What does the rate of change represent in this situation?

5. How is the rate of change in this situation visible in the graph? What do we call the rate of change on the graph?

6. What is the x-intercept? What does the x-intercept represent in this situation?	7. What is the y-intercept? What does the y-intercept represent in this situation?
8. What is the reasonable domain for Whitney's situation? Are there any values that would be unreasonable to include?	9. What is the reasonable range for Whitney's situation? Are there any values that would be unreasonable to include?

10. Write an equation in function notation to represent the situation._____

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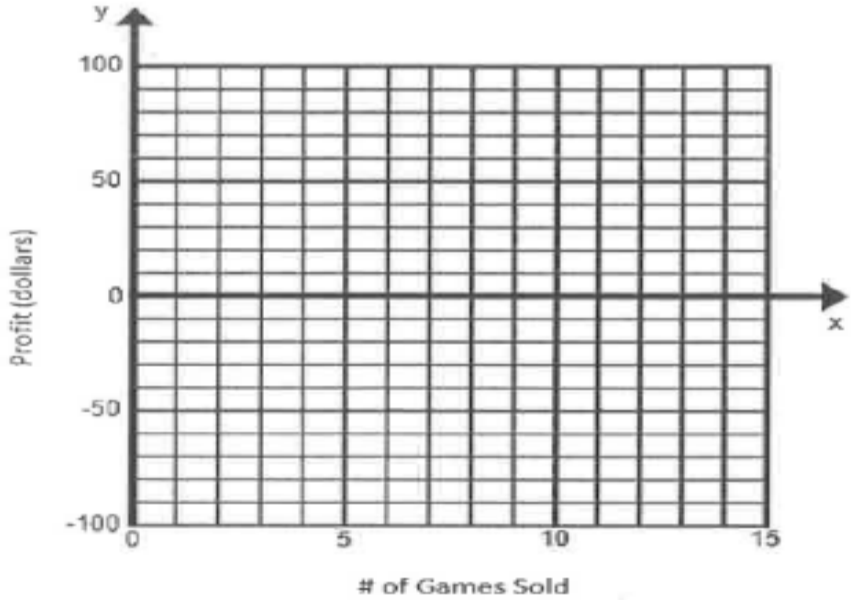
Example 2: Sony sells the PS4 for a $90 loss, but every game they sell they make $40.



Number of Games Sold	Profit
0 (initial)	-90
1	-50
2	-10
3	30
4	70

1. Is this situation discrete or continuous data? Should we connect these points with a line?

2. What is the rate of change?

3. What does the rate of change represent in this situation?

4. How is the rate of change in this situation visible in the graph? What do we call the rate of change on the graph?

6. What is the x-intercept? What does the x-intercept represent in this situation?	7. What is the y-intercept? What does the y-intercept represent in this situation?
8. What is the reasonable domain for Sony's situation? Are there any values that would be unreasonable to include?	9. What is the reasonable range for Sony's situation? Are there any values that would be unreasonable to include?

10. Write an equation in function notation to represent the situation._____

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3. **What do we know about the following linear equation?** $f(x) = -3x + 5$

Create three ordered pairs:_____

Name the slope:_____

Is the line **Increasing** **or** **Decreasing** ? Explain why.

4. **What do we know about the following linear equation?** $f(x) = 7 + 5x$

Create three ordered pairs:_____

Name the slope:_____

Is the line **Increasing** **or** **Decreasing** ? Explain why.

5. **What do we know about the following linear equation?** $f(x) = 10x$

Create three ordered pairs:_____

Name the slope:_____

Is the line **Increasing** **or** **Decreasing** ? Explain why.