

Name:

Date:

Period:

5.4: #blowingup



On New Year's Day 2016 the up and coming Math Education duo @**LiemnNate** had exactly 20 followers on Twitter. However, experts predict this account is about to get crazy amounts of followers in the coming years as Liem 'n Nate become well known in classrooms and educational circles. In fact, it is estimated that the number of followers will quadruple every year for the next few years.

- 1) How many followers will @LiemnNate have at the start of 2017?
- 2) Write an equation for $L(t)$, the predicted number of followers @LiemnNate will have t years from 1/1/16.
- 3) Evaluate $L(2)$. What does this answer represent?
- 4) At the beginning of which year will @LiemnNate to reach exactly 1,280 followers?
- 5) Evaluate $L\left(\frac{3}{2}\right)$. What does this answer represent? Does this answer make sense? Explain.
- 6) How many followers is @LiemnNate predicted to have in two and a half years?
- 7) Evaluate $L(2.25)$. What does your answer represent?

Name:

Date:

Period:

8) How many twitter followers is @LiemnNate predicted to have at the end of this month? Show the work that leads to your answer. Explain why your answer seems reasonable (or does it?).

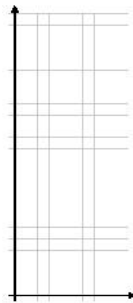
9) *Right now the math education guru @ddmeyer (Dan Meyer) has 46.3K followers. How long will it take @LiemnNate to accumulate that many followers?*

❖ *In January 2014 Dan had 23.3K followers and in January 2015 he was up to 33.6K followers. How long will it take for @LiemnNate to actually catch up to Dan Meyer? Justify your answer by providing the necessary mathematical evidence.*

10) Is L discrete or continuous? Explain.

11) What is a reasonable domain for L ? How did you come to this conclusion?

12) Sketch a graph of $y = L(t)$.



13) Whether or not you included negative values in your domain, use your equation to evaluate $L(-1)$. What does this answer represent? Does it make sense?

14) What if everyone in this class goes home today and follows @LiemnNate on twitter? Will this ruin L as a model for predicting followers? Should we change the model? Explain why or why not. How should we change it?