Calculus AB	Responses 0331
Paul L. Bailey	Monday, March 30, 2020

Question 1. What can slope fields be used for?

AP Dr.

Answer. Slope fields help you visualize solutions to first order differential equations.  $\Box$ 

**Question 2.** What exactly are slope fields used to calculate or solve for? Or are they just an aid for visualization?

Answer. Yes, they are just for visualization.

Question 3. Are we going to have to draw slope fields on the AP exam?

Answer. As far as we know at this point, it is possible.

**Question 4.** Can you draw a slope-field if we are given the functions, or would that just be a graph of the function?

Answer. The equation needs to have  $\frac{dy}{dx}$  in it, and no higher order derivatives, to get a slope field. Does that answer your question?

Question 5. Will AP curve still apply to our entire year's grade?

Answer. I believe the answer to that is yes. BASIS should be announcing its new grade adjustment chart soon.  $\hfill \Box$ 

**Question 6.** Do the Thomas Calculus units correspond to the AP units? If not, what units will remain on the updated online AP test?

Answer. After we finish slope fields, separable differential equations, and L'Hospital's Rule, we will have covered everything on the AP exam. The fact that this year's exam will not include areas and volumes is actually a disappointment, since those are relatively easy topics.

Everything in Thomas that we have covered except areas and volumes will potentially be on the exam. The College Board will give us more information in the next week or so.  $\Box$ 

**Question 7.** Is the logistic growth of coronavirus slowing down yet?

Answer. I plan to create some worksheets on this.

New cases per day are still going up everywhere except China and Italy. Some regions may have hit an inflection point, but almost everywhere, the number of current infections is still increasing at an increasing rate; the second derivative is positive; the curve is concave up. We have not hit the inflection point.

If you are interested in statistics, this website has daily numbers in a spreadsheet. Try to analyse them.

https://github.com/nytimes/covid-19-data