5e Calculus Concepts
LaTorre, et al.

Learning Activity
1.4
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Linear Models
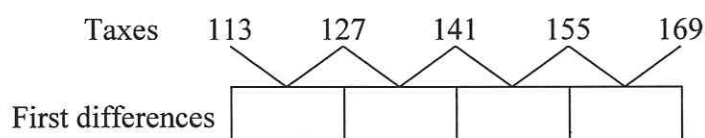
Name: _____   Grade: _____

Group Members Present:

_____, _____, & _____

1. The table below shows the amount of motor vehicle taxes collected by a certain county.

Year	2006	2007	2008	2009	2010
Taxes (million dollars)	113	127	141	155	169

a. Calculate the first differences.

Taxes   113   127   141   155   169

First differences | | | | |

b. Write a linear model for the amount of motor vehicle taxes collected given the number of years since 2006.

c. According to the model, what were taxes in 2011?

d. According to the model, in what year will taxes first exceed $300,000,000?

2. The table lists the percentage of persons 25 years and over who have completed four or more years of college.

Year, t	1975	1980	1985	1990
Percentage, $g(t)$	13.9	16.2	19.4	21.3

   a. Write a linear model for the un-aligned data given in the table.

   b. What is the slope of the linear model? (Include units of measure.)

   c. Calculate $g(2010)$. Write a sentence interpreting the result.

   d. Is the result in part c an extrapolation or interpolation? Explain.