


Individual Assessment for MATH& 148 - Fall 2018


Assessment name 
Marginal Analysis

Created by
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December 17, 2018

Outcome to assess 

Apply the concepts, techniques and vocabulary of limits, continuity, and first and second derivatives to solve problems in contexts such as marginal analysis, product elasticity, related rates, point of diminishing return, exponential growth/decay and optimization.


Briefly describe the teaching methods (e.g. lessons, activities, etc.) that you used to help students learn the course outcome. 


 [View 2 related teaching methods](#)

The above outcome was assessed on the final exam. The topic was introduced through lecture and reinforced with homework, extra credit quiz, applications that I generated after talking with a colleague in the business department, real data, articles from the Wall Street Journal, group work, student presentations and peer review.



“Very nice; love that you talked to a colleague in the business department” — HBurn March 6, 2019

Briefly describe the assessment method (e.g. quiz, test, paper, survey, practicum, etc.) you used to measure whether the student met the outcome, including your established level of student proficiency. 

 [View 2 related assessment methods](#)

The question was graded using a rubric where 70% or higher was proficient and represents a 2.0 and below 70% would be not proficient and below a 2.0.

Question

A company's margin cost for a product is $6 \cdot x - 60$, its marginal revenue is $180 - 2 \cdot x$, and its total cost of production of 10 items is \$1,000.

- a.) Determine the cost function
- b.) Determine the revenue function
- c.) Determine the profit function and using calculus find the number of units that will yield maximum profit and what is the maximum profit?
- d.) Calculate the margin revenue, marginal cost, and marginal profit when 30 units are produced and use complete sentences when interpreting your results.



“Great assessment here on one of the most complex outcomes of the class.” — HBurn March 6, 2019

How many students met the outcome? How many did not? 

Sections to assess - section history	Outcome Met	Not Met	Percent Met
<input checked="" type="checkbox"/> 6458 DAILY 8:00a	18	2	90
<input checked="" type="checkbox"/> 6460 MTWTh 11:00a	20	3	87

Reflect on the effectiveness of your teaching and/or assessment methods. What worked and what did not? 

Based on the results above I think it went well. I collected student feedback and they really liked the WSJ articles and peer review. What did not work so well was the amount of time that these activities took. Another thing that was challenging is at Highline students can take math 148, business calculus, without ever having taken algebra.



"I wonder about the comment on having taken algebra, as students enter the class with Math 111-level skills either through taking the placement test or through taking the class. I believe generally at the national level, faculty never find students' algebra skills to be high." — HBurn March 6, 2019

Did you change or do you plan to change your teaching methods and/or assessment methods in response to the data you've collected? If yes, please describe these changes. 

Yes No

I have two sections of math 148 next quarter. I will try the same thing and compare results and will have a better idea of next steps.

Viewable by 

Campus community

Submitted for review

December 17, 2018

Reviewed

March 6, 2019 by HBurn



"This assessment will be featured as an example of best practices at Highline" — HBurn March 6, 2019