

LITT 2014:
Video Solutions for Homework
A Success Story (so far)

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Math 128 (Calculus I)

My Project Proposal

- Last year, I redesigned Math 128 (Calculus I) so that now there is no required textbook. All my notes, homework, review sheets, etc. are now posted on Moodle for the students to use during the semester. Now that my course framework is complete, I would like bring videos to my Math 128 Moodle page.
- Specifically, by summer 2014, I will have 4 classes worth of homework data which will show me which assignments caused students difficulty. My plan is to make a series of short videos (approximately 3-5 minutes each) which will consist of me working out targeted homework problems.

I Know What I Did This Summer

- 21 Total Videos completed during Summer 2014
- Video Length: 1:35 - 9:12
 - However most videos (16 of the 21) have a runtime between 2:00 and 6:00.
- All videos posted to YouTube
- All videos embedded on my Moodle class page
- All homework problems with video solutions clearly marked on homework handouts.

Creating Videos



YouTube

Uploads

Date added (newest - oldest) ▾



4:54

Assignment22 4

No views 3 weeks ago



6:01

Assignment20 9

No views 3 weeks ago



7:38

Assignment19 4

2 views 3 weeks ago



6:21

Assignment18 2

3 views 1 month ago



2:46

Assignment17 3

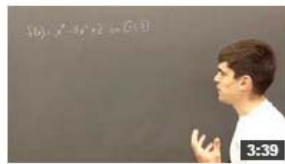
1 view 1 month ago



2:31

Assignment16 07

2 views 1 month ago



3:39

Assignment15 08

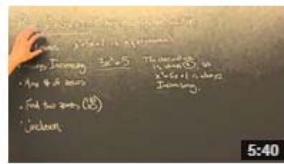
2 views 1 month ago



3:29

Assignment14 07

1 view 1 month ago



5:40

Assignment13 05

2 views 1 month ago



4:23

Assignment12 01

4 views 1 month ago



2:35

Assignment11 10

1 view 1 month ago



2:34

Assignment10 04

1 view 1 month ago



4:36

Assignment08 08

5 views 1 month ago



2:40

Assignment08 04

3 views 1 month ago



1:35

Assignment07 06

12 views 1 month ago



4:20

Assignment06 02

17 views 1 month ago



4:39

Assignment05 07

25 views 1 month ago



5:58

Assignment04 #11

14 views 1 month ago



4:26

Assignment03 #12

31 views 1 month ago



5:59

Assignment02 #10

30 views 2 months ago



9:12

Assignment01 #07

30 views 2 months ago

Moodle

September 15 - September 21

Monday

 Day10-ProductAndQuotientRules

 Assignment 08 - #4 and #8 Video Solutions

Tuesday

 Lab 03 Submission

Wednesday

We will review in class today.

Friday

 Day12-ChainRule

 Assignment 10 - #4 Video Solution

Videos in Moodle

September 8 - September 14 → Assignment 07 - #6 Video Solution

Assignment 07 - #6 Video Solution



The video player displays a man in a white t-shirt writing on a chalkboard. The chalkboard contains the derivative equation $\frac{df}{dx} = 5x^4 - \frac{1}{2}x$. The video player interface includes a play button, a progress bar showing 0:00 / 1:35, and the YouTube logo.

Assignment07 06

0:00 / 1:35

YouTube

Homework

More Tangent Lines

For problems 7-14, assume that f and g are differentiable with $f(0) = -1$, $f(1) = -2$, $f'(0) = -1$, $f'(1) = 3$, $g(0) = 3$, $g(1) = 1$, $g'(0) = -1$, and $g'(1) = -2$.

7. Find an equation of the tangent line to $h(x) = f(x)g(x)$ at $x = 1$.

8. Find an equation of the tangent line to $h(x) = f(x)g(x)$ at $x = 0$.

9. Find an equation of the tangent line to $h(x) = \frac{f(x)}{g(x)}$ at $x = 1$

Success?!

- On Monday, September 15 I administered a survey for both of my Math 128 classes.

Survey - Part 1

Please answer the following questions.

1. Y N Have you viewed the videos that Professor Reed created for Math 128? If you answered no, please skip to Part 2.
2. ----- How many videos did you watch (give your best guess)?
3. Y N Were the videos generally helpful?
4. What aspect of the videos did you like best?

- Math 128A: 14 respondents
- Math 128B: 17 respondents

Survey Results

	Have Used the Videos (at least once)	Have NOT Used the Videos	Average # of Videos Watched (out of 7 possible)
Math 128A	12	2*	4.125
Math 128B	17	0	3.94

*The two students who said that they hadn't watched any of the videos both wrote that they are glad the videos are available. One student wrote "So far I have not needed them (the videos) but I am positive that I will in the future."

Selected Student Comments:

What aspect of the videos did you like best?

- “That you go step-by-step to solve the problem.”
- “I liked that it broke down the problems and showed all of the work for each step.”
- “I liked that the videos were generally for tougher problems.”
- “Usually the example featured in the video is a problem that has a broad concept to help the student with the other problems. I usually watch the video first for that reason.”
- “Just using them to check my answers.”

Negatives?

- I had to re-record a number of videos (choppy sound, missing sound, extra noises, PFEW, etc.)
- A few times I stand in front of the work unknowingly (would have been nice to have someone else run the camera)
- No nice transitions within the video (i.e. I did one-take videos for all but a single video)
- Talking to a camera is not like talking to a classroom!

Questions?