

2019/02/18 10:561/4

Scan of Chapters 1, 2, 3 of our text

The assignment is given on the day named.

You should have questions for me and be ready to answer mine on the previous day's assignment.

Quizzes will be announced for the most part, about one per week.

Making an *honest* effort daily to do HW is the *only* way to pass the course. Sometimes I collect a few problems. Maybe a hand-out or a take-home quiz. Sometimes, I do a desk check during the lecture break.

WEEK 1

Wed to Thurs: Read Ch 1 and 2; view first five videos at SUPPLEMENTAL MATERIALS

Further review: Simplifying radicals with constants only, With variables and Many videos on negative exponents

Do p 5 exercises: #1, 2, 7, 8

View: Finding domain of a function

Do p 16 exercises: #9-15

Fri-Sun View Graphing piecewise functions; do rest of Ch 2 exercises, pp 15-16, #1-6

Read Ch 3; view Break even problem 1 and Break even problem 2


The first problems in Ch 3 cover the review of lines, whose *general* form is $px + qy + r = 0$.

Do Ch 3 p 26 exercises #1-5

WEEK 2

Mon At the [VIDEOS](#) link, view the first group of videos (Cost, Revenue, Profit)

Do rest of Ch 3 exercises pp 27-28 #6-16.

 Read Ch 4 (Exponential and Logarithmic Functions)

View Graphing exponential fcns (up to minute 7:30) and Graphing log fcns

And Solving exp eqns, Solving log eqns Ex 1 and Ex 2, Using change of base formula

Do pp 43-44 #1-5, 8 b e f g, 10 a c e f, 11 e f h, 12, 14, 18, 19, 20 a-e, 21 b d f

Wed Read Ch 5

At the [VIDEOS](#) link, view the second group of videos (Compound Interest)

Study for Quiz 1 Friday, Ch 2-5; draw up 1 page of thumbnail sketches of essential functions covered in class, which you may use on the quiz.

Here is a scan of My essential function sketches

YOU MAY NOT USE MY PAGE. Copy it in your own hand.

Fri-Sun Do Ch 5 exercises #1-7 and continue if you need practice with the extra exponent practice.

View the last two Sec 5 videos at SUPPLEMENTAL MATERIALS, on continuous compounding and effective interest rate.

View all (yes, all) limit videos at [VIDEOS](#)

Read Ch 6. (Stay tuned here. One other post to come, which is practicing graphing piecewise functions.)

WEEK 3


Mon Did you watch all the limit videos? Watch them again and use them and the examples in the book to do as many of the problems as you can so far.

Do Exercises p. 67 #1-12, #16-30 even.

The short of it is this: To find a limit, first plug in the $x = a$ given. If you don't get a number, but get $0/0$ or $\text{number}/0$, then you have to resort to algebra. The videos are your friend. I will be, too, but not till Wednesday.

Hint: I have posted the solutions already, so you could follow along.

Notes on Limits


 Read Ch 9 *Continuity*

Wed Today's lecture notes on Limits and Continuity

Continuity video 1 and Continuity video 2

Find several more, including videos on graphing piecewise functions under Continuity in [VIDEOS](#)

Do Sec 9 pp 84-85 #1 a-e, 2 a-d, 4, 5, 6

 Read Ch 7 and Ch 8

 Short quiz on Friday on, compound interest, limits and continuity. No notes are allowed on this quiz.

Ch 5 Know all the formulas, $n = \text{finite and continuous compounding}$. Know how to solve for t . Effective interest rate.

Ch 6 Know how to take limits of all types, given a function and/or a graph.

Ch 7 Know the criteria of 'f is continuous at a point $x = a$ ' to use when you justify whether a function is continuous or fails. Be able to Graph a piecewise function. The video has two clear examples.

Don't forget to check SUPPLEMENTAL MATERIALS and VIDEOS for extra helpful materials.

Fri-Sun Do Ch 7 Exercises p 72 #1, 2, 3 a-d

View Difference quotient (DQ) and the definition of derivative

WEEK 4

Mon Read Ch 8. Then, view the video, where Patrick finds the equation of the tangent line to $f(x)$, but already has the derivative function $f'(x)$ and evaluates it at the given point to get slope m . (Rather than doing the calculation of the limit of the DQ). This gives you the overall picture: Finding equation of tangent line to the curve

Homework on limit of difference quotient to hand in on Wednesday! Remember, it's easier to find the general limit at $x = a$, then substitute the three values $-1, 0, 1$ into this (the derivative!)

Do Ch 8 Exercises p 78 #1, 2, 3, 4 *using the derivative formulas*

Tues-Wed Review worksheets for Exam 1

I've extracted and entitled Supplemental Materials worksheets here. Practice what you need:

- Piecewise function worksheet
- Limit worksheet
- Finite and continuous compounding of interest worksheet
- Equation of line tangent to $f(x)$ worksheet #2a and #3 a,b only

Solutions are found at Solutions to worksheets

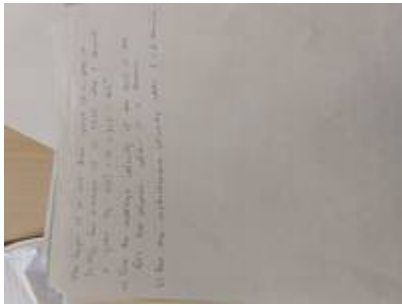
Wed-Thurs Exam 1 Topics:

Essential graphs; function of a domain (interval notation); piecewise functions; intercepts (y and roots); limits; continuity; linear cost, revenue, profit; compound interest (solving for various unknowns, whether F, P or t); slope of tangent using definition of derivative (limit of DQ etc.) and equation of tangent line at a point of $f(x)$.

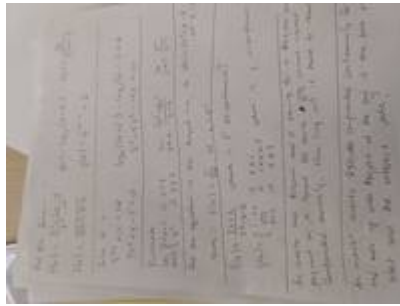
As usual, some interpretation of answers, like marginal cost, time to double with finite vs continuous compounding, word problems on derivatives.

I meant to post this: Compound interest summary

And here is what I did in class from Dan McKinney's practice: Practice for exam 1 and practice_for_exam_1_key.pdf



and



😊 WEEKEND HW **Fri-Sun** Read Sec 10 (derivative rules) and view relevant videos:

Shortcuts to the derivative

Proof of product rule

Proof of quotient rule

Derivative of an exponential fcn with base a

Derivative of a log fcn with base a

WEEK 5

Mon Do Sec 10: #1-6, 8-10, 11, 12, 13

Read Sec 11 (chain rule).

Do Derivative extra practice

Refer to the Essential formulas handout and the videos.

From:

<https://www2.math.binghamton.edu/> - **Binghamton University Department of Mathematical Sciences**

Permanent link:

https://www2.math.binghamton.edu/p/people/mckenzie/math_220_hw

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