

1 How to review for the midterm

How to review for the midterm? The best way is to redo the homework, and the quizzes *without looking into the book or at the solution*. This is very important since the midterm won't be open-book. If you need to look at a similar example in the book to know how to proceed, that's ok but try to do a similar exercise later without looking into the book at all. There is a lot of difference between knowing how to do an exercise with and without the book.

Here is a reminder of what we have covered, and a suggestion of exercises which you may want to do in addition to the homework I already assigned (you still can look at the exercises I assigned on <http://www.math.utah.edu/~vincent>).

Units Analysis. Conversion between units, use of conversion factors, chain of conversions, and conversion between units with powers (Be cautious, they are tricky!). USCS system and metric system (you should know metric prefixes), and conversion of temperatures. See exercises 5,15,17,19 page 141 and 5,9,11,16 p 155.

Percentages. 3 uses of percentages: to describe fraction, change, and comparison (exercises 3,7,11 p. 196). Not only you should be able to compute the percentages but make a sentence using it (and be cautious, this is not as easy as it seems. You should practise to make sentences). See for instance the *more-than versus of* rule (exercise 13 p.197). Also take care of other subtleties of percentages: shift in value and percentages of percentages (23,29 p. 198).

Putting numbers in perspective. The main tool to understand very big and very small numbers is powers of 10, and scientific notation. They require some training: see exercises 7,9,15 p.212. The uses of scales or estimations is also useful, see 23,27 p. 213.

Financial management. You should know the compound interests formula for interests compound once and more than once a year. You should also be able to compute the APY by taking a dummy amount and looking to how much it becomes after one year (exercises 3,5,7 p. 245). For the

savings plan and loan formulas, you needn't to know them, but you have to know what the letters A,PMT,APR,n,Y mean since I won't remind you this. To practise with those formula see exercises 7,13 p.256 and 3,5,12 p. 270. Note that during the test you won't know from which part each exercise is from, so it may not be obvious which formula to use. You have to keep this in mind when doing the homework (see for instance example 4 page 264).

We also saw how to use logarithms to solve for years: see homework sheet (also on the internet).

Modeling our world. You should know how to recognize the independent variable from the dependent variable and how to plot the graph of a function, and make predictions from a graph. See homework: exercises 3,7,9,13. About linear graphs and modeling, you should know how to compute the rate of change, and how to compute the change in the dependent variable knowing the rate of change and the change in the independent variable, you should know how to solve and create linear equations and study models with 2 linear equations. See homework: 1,3,5,9,15,17,25,31,33,35,39,45.

Note: We may be short of time to cover entirely chapter 6B before Monday. But whatever happens, for the midterm, you just need to know what we have covered until Monday (included).