Trigonometry
exam II review

(About the exam**)**

Below are the topics that we have covered in class for chapter 7. I bulleted the major concepts of each of the sections as well as included the page number that the subchapter starts on. You are allowed a singled 3x5 notecard for use on the exam, on which you may write whatever you want! The exam will take up all 50 minutes of class time, and you may use a calculator.

(chapter 7**) –** Trigonometric Identities ad Equations

(7.1**) –** Fundamental Identities (page 554)
- Know the basic identities (definitions) of the 6 basic trig functions in terms of x, y, and r.
  - $\sin\theta = {}^{y}/_{r}$
  - $\sec\theta = {}^{r}/_{x}$
  - $\tan\theta = {}^{y}/_{x}$
  - etc….
- Know how to manipulate the quotient, reciprocal, and Pythagorean identities to simplify trig expressions
- Know the negative-angle identities on page 562

(7.2**) –** Verifying identities (page 565)
- Know how to use the identities learned in section 7.1 to prove certain truths about trig expressions
- **Know how to set up proof outlines (math on the left & justifications on the right)**

(7.3**) –** Trigonometric Equations (page 573)
- Know how to find and use reference angles to solve for exact values of trig functions.
- Know how to solve inverse trig equations
- Be able to solve trigonometric equations on restricted and non-restricted domains (the $+2\pi n$ stuff)

(7.4**) –** Sum and Difference Identities (page 587)
- Know the sum and difference identities and how they can be used to verify identities

(7.5**) –** Multiple angle Identities (page 597)
- Know the double and half angle identities
- Be able to use half angle identities to write exact values of trig functions
- Power reducing identities will not be on the final exam
- Be able to use double angle identities to solve things like $\cos 2t + 2\cos^2 t = 0$

(chapter 8**) –** Further topics in trigonometry

(8.1**) –** Law of Sines (page 620)
- Know how the definition of an oblique triangle
- Know how to solve the AAS and SSA (ambiguous case) cases of oblique triangles using the law of sines
- Be able o draw diagrams of word problems to help solve application problems involving the law of sines

(8.2**) –** Law of Cosines (page 632)

- Know how to solve SSS and SAS cases of oblique triangles using the law of cosines
- Be able to draw diagrams of word problems to help solve application problems involving th law of cosines
- Know the trigonometric definition of the area of a triangle
- Know how to find the area of a triangle but just knowing it's thre side lengths using Heron's Formula.
- Understand bearing

(Additional Thoughts**)**

There is only 50 minutes to take the exam – so clearly I won't be able to put ALL of the stuff on this review on the exam itself. There are 4 main resources I use for my exams:

i) Notes
ii) Homework (though, at this point you can only review online assignments – but check back to see which type of problems I did assign on your homework)
iii) Review
iv) Quizzes

Please make sure you are as ready as you can be! My general advice is to **put yourself into a testing situation before the exam**. I think that a lot of students may study for an exam, but never actually set aside 50 minutes to do 16 or 17 problems – forcing them to be in a timed situation. That would be analogous to running a race but never running a practice race, or a tempo run. **Make sure you try to do a set amount of problems in 50 minutes** – that way when you get to the exam, the time constraint isn't so much stress!

Make sure you get enough sleep before the exam!

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