

How to use this practice midterm: This list of sample problems should give you an idea of what I think is important for the midterm. The real midterm will not simply be these problems with a few numbers changed, but the real problems will at least cover the same concepts.

Therefore, when you do these problems you should do more than sit in front of your textbook and compare them to examples until you can do them. Instead you should be able to write these (or any other related problems) down and solve them *without* the textbook. The best way to reach this level is by simply doing lots of problems out of the book. At the beginning you'll have to look things up, but keep working until you can do the problems without your notes or the book.

To save time, I'm going to list a lot of problems from your book which are similar to questions on the exam. You should do these problems (and other related problems from the book, as mentioned above). Answer to odd-numbered problems are in the back of your book.

Section 3.6 - Do any of the problems from 1-10 and 11-22. For any problem you try in the first group, find $f(c)$ using the Remainder Theorem.

Sections 6.4, 6.5 - Problems 57-68 are a good way to see if you know the sum and difference formulas. Establishing identities on page 417 or page 425 can be good practice too. (But don't worry about those which use the half-angle formulas, such as #39-#43 on p425.) Here are a few more:

Establish the identity: $\frac{\cos(\alpha-\beta)}{\sin \alpha \cos \beta} = \cot \alpha + \tan \beta$.

Establish the identity: $\sin(2\theta) \tan \theta + \cos(2\theta) = 1$.

Establish the identity: $(4 \sin \theta \cos \theta)(1 - 2 \sin^2 \theta) = \sin(4\theta)$.

Section 6.7, 6.8. - You should be able to solve the equations in section 6.7 (such as $\sin \theta = 1$) because every problem in section 6.8 will also involve those equations. Any of the problems 1-38 in section 6.8 are good practice. In class we paid particular attention to the "quadratic" equations and things like $\sin \theta + \cos \theta = 1$, so those will probably be important on the midterm as well.

Section 7.1 - You should know what it means to solve a triangle, and you should be able to solve right triangles for sure. (See 21-34) Problems like 11-20 will either show up on this midterm or the final exam, so they're worth a look.

Section 7.2 - Example 2, example 6, #31, #3, #43 are all good practice with the Law of Sines (as are all of the other problems).

Section 7.3 - Know how to use the Law of Cosines to solve a triangle. Any of the problems 1-24 are good. The rest of the problems are the same, but they're given in "story" form.

Section 7.4 - You should know how to find the area of a SAS triangle or a SSS triangle. Pick any of the exercises, really!