Math Analysis / IB Math Standard

Review Sheet for Chapter 7/8: Analytic Trigonometry

You should be able to do the following things on this test, in both radians and degrees:

Without a calculator

Use all forms of reciprocal identities to simplify trigonometric expressions *Section 7.1*

Use all forms of Pythagorean identities to simplify trigonometric expressions *Section 7.1*

Use all forms of reciprocal identities to prove trigonometric identities *Section 7.1*

Use all forms of Pythagorean identities to prove trigonometric identities *Section 7.1*

Use all forms of double-angle identities to simplify trigonometric expressions *Section 7.3*

Use all forms of double-angle identities to prove trigonometric identities *Section 7.3*

Given the sine, cosine, or tangent of θ, calculate sin 2θ and cos 2θ *Section 7.3*

Use identities, graphs, and reference triangles to solve trigonometric equations *Section 7.5*

With a calculator -- all of the above, plus…

Solve trigonometric equations and inequalities *Section 7.5*

Solve triangles using the Law of Sines, including the ambiguous case *Section 8.1*

Solve real-life problems using the Law of Sines, including bearings *Section 8.1*

Solve triangles and real-life problems using the Law of Cosines, including bearings *Section 8.2*

Find the area of a non-right triangle using the formula  *IB Worksheets*

Make sure you can use all these strategies:

* change to sines and cosines
* use reciprocal identities
* factor the expression
* find a common denominator
* rewrite complex fractions as multiplication by the reciprocal
* rearrange and/or substitute using Pythagorean identities
* rearrange and/or substitute using double-angle identities
* use the conjugate

The following review problems in your textbook would be helpful to try:

Read through sections 7.1, 7.3, 7.5, and pages 504-505

Read through sections 8.1, and 8.2 and pages 563-564

Page 505: 1-4, 11-14, 17, 18-23, 34-42, 46-49, 54, 58,

Pages 567-569: 1-7, 19-23, 62