

University of South Carolina
Math 222: Math for Elementary Educators II
Instructor: Austin Mohr
Section 002
Fall 2010

Final Exam Study Guide

Test Wednesday, December 8 at 2:00 pm

Be sure you can work problems or explain concepts from the following list. Remember that you may bring in a single sheet of notes to the exam.

- Determine how many lines/planes can be formed by a given set of points. (Quiz 1.1b,c, Midterm 10)
- Use transversals to determine when given angles are equal. (Quiz 1.3, Midterm 7a)
- Use hierarchy of quadrilaterals to determine whether one type of quadrilateral is always another type, as well. (Quiz 1.4, Midterm 11)
- Determine if a given set of faces can meet at a vertex of a polyhedron. (Quiz 1.6c, Midterm 12)
 - These problems often make use of the formula for the sum of interior angles of an n -gon.
- Similar/Congruent Triangles (Midterm 7)
 - Use similarity/congruence rules to determine if two triangles are similar.
 - Use scale factors to find lengths of sides in similar triangles.
- Right Angle Trigonometry (Quiz 2.4, Midterm 8)
 - Use trigonometric functions to find missing sides.
 - Use inverse trigonometric functions to find missing angles.
- Find the equation of a line through two points. (Midterm 9b)

- Convert from one unit of measurement to another. (Quiz 3.1a, but you don't need to know about scientific notation)
- Perimeter/Area/Surface Area/Volume (Quiz 3.2, 3.3)
 - Find area/surface area by breaking into triangles, rectangles, and sectors (parts of circles).
 - Find volume of prisms.
 - In all of the above, be able to work with variables (h for height, r for radius, etc.) instead of just numbers.
- Find distance between two points in two-dimensional space. (Quiz 3.5a)
- Understand that a circle is the collection of all points that are a fixed distance (the radius) from the center.
- Translate points. (Quiz 4.2a,b)
- Symmetry (Quiz 4.5)
 - Draw lines of symmetry.
 - Give angle of a rotational symmetry.