

Final Exam Review

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This is a short exam review to cover the major concepts we've seen in this course, as well as to list definitions, proofs, constructions, and a few other things that you should be able to recall for the exam. This review doesn't cover all the material in the course, but it's a good starting point for studying. The final exam covers all sections of the course, from 1.1 through 9.5. For material from Chapters 1-6, see the first two exam reviews - this guide *only* contains material from Chapters 7-9.

Definitions to know: Similar (7.1); equiangular (7.2); slope of a line (7.3); trig functions sin, cos, tan (7.4); unit square / square unit (8.1); circle, circumference, pi, central angle, arc, sector, (a/the) radius, (a/the) diameter (8.2); relative error (8.4); prism / right prism / general cylinder (9.3); pyramid / cone (9.4); sphere (9.5).

Facts / Theorems to know: Mother-Daughter Theorem (7.1); different characterizations of similarity, such as corresponding sides proportional, AA test, two proportional sides with equal included angle (7.2); parallel cuts theorem (7.2); how to find slope / equation of a line (7.3); slopes of parallel and perpendicular lines (7.3); how sine, cosine and tangent are defined in terms of a right triangle / SOHCAHTOA (7.4); how scaling affects area / volume (8.1, Chapter 9); unit conversions with area, volume, capacity, weight (8.1, Chapter 9); area and circumference of a circle and the pictures associated with these (8.2/3); how to report accuracy (8.4); volume of a box (9.1); volume of a prism / cylinder (9.3); surface area of simple figures like a cylinder (9.3); scaling / skewing principles (9.4); volume of a pyramid / cone (9.4); volume / surface area of a sphere (9.5); Cavalieri principle (9.3).

Constructions to know: How to build a number line with fractions and a few irrational numbers (7.3).

Proofs to know: Mother-Daughter Theorem (7.1); Parallel Cuts Theorem (7.2).