

Math 80 Topics for the Final Exam

This is a list of topics from the last 3 weeks of class, but the final is comprehensive. For the topics from the first 7 weeks of class, look at the List of Topics for Exam 1 and Exam 2.

Chapter 6: Factoring

- Factoring the GCF out of a polynomial and factoring by grouping - §6.1
- Factoring trinomials of the form $x^2 + bx + c = (x \quad)(x \quad)$ - §6.2
- Factoring trinomials of the form $ax^2 + bx + c = (\quad)(\quad)$ - §6.3
(You can use the trial & error method or the method that uses factoring by grouping)
- Factoring special products - §6.4
 $a^2 + 2ab + b^2 = (a + b)^2$, $a^2 - 2ab + b^2 = (a - b)^2$, $a^2 - b^2 = (a + b)(a - b)$
- A factoring strategy (Note: We did not cover the difference of cubes) - §6.6
- Solving quadratic equations by factoring - §6.7
- Applications of quadratic equations - §6.8
 - Area of a rectangle = Length·Width, Area of a triangle = $\frac{1}{2}$ Base·Height
 - Pythagorean Theorem: $a^2 + b^2 = c^2$ (Right triangle: a, b - Legs, c - Hypotenuse)

Chapter 8: Radicals

- Square roots (Each positive number has a positive square root and a negative square root.) - §8.1
 - Finding square roots of perfect squares (Ex: $\sqrt{81} = 9$, $-\sqrt{81} = -9$)
 - Approximating irrational square roots using a calculator (Ex: $\sqrt{13} \approx 3.60555$)
 - Square roots of negative numbers are not real numbers.
- Simplifying square roots using the product rule or prime factorization - §8.2

Chapter 9: Quadratic Equations

- Solving quadratic equations using the square root property ($x^2 = c \Rightarrow x = \pm\sqrt{c}$) - §9.1
- Solving quadratic equations by completing the square - §9.2
- Solving quadratic equations by using the quadratic formula ($x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$) - §9.3

Make sure to review the assigned homework problems and old quizzes. Taking each quiz again is a good idea. You can print out blank quizzes at the following site:

www.shoreline.edu/janderson/Math80Files/Winter2010/quizzes.htm

You can also find blank copies of the exams at the following site:

www.shoreline.edu/janderson/Math80Files/Winter2010/exams.htm

Make sure to **pace yourself** by starting to study at least a week ahead of time. For example, you can take one or two quizzes each day to help you identify topics that you need to study further.

Here are **some** good review problems for the last 3 weeks.

- Ch. 6 Review (pgs. 549-550): 2, 3-13, 15, 17, 18, 21-30
- Ch. 8 Review (pg. 727): 3-6, 9
- Ch. 9 Review (pg. 790): 3-7, 9-15, 17-20