Final Exam Review Checklist

Ch. 6 – 10 + supplemental units

Use your quizzes, tests, and book to ensure you can perform the following. It may be helpful to find/create examples of each skills listed below using your quizzes/tests. Do not rely solely on the worksheets provided, these don't help you study very well, they help keep you busy!!! You study math best when **you** create the problems yourself, that way you see how to create *and* solve it.

Ch.6

- ☐ **Apply** the properties of exponents (Know how to simplify, don't just memorize the rules!!!)
  - ☐ Multiplication Property
  - ☐ Zero property
  - ☐ Negative property
  - ☐ Division property
  - ☐ Converting rational exponents to radical form (and vice versa)
- ☐ Multiplication and Division of numbers in scientific notation
- ☐ Exponential growth and decay equations
- ☐ Solving simple exponential equations. For example: $2^{x+3} = (2^6)(2^4)$
- ☐ Distinguishing between arithmetic and geometric sequences

Ch.7

- ☐ Add and subtract polynomials
- ☐ Multiply polynomials (using FOIL and/or distributive property)
- ☐ Solve polynomials/quadratics in factored form
- ☐ Factor $ax^2 + bx + c$ where $a = 1$
- ☐ Factor $ax^2 + bx + c$ where $a > 1$ (using grouping)
- ☐ Factor special products (perfect squares and difference of two squares)
- ☐ Find the greatest common factor between two or more terms and factor it out

Ch.8

- ☐ Graph a quadratic in vertex form
- ☐ Graph a quadratic in factored form
- ☐ Graph a quadratic by converting it to factored or vertex form
- ☐ Solving real world problems by graphing
- ☐ Know where to and how to find the roots, vertex, and axis of symmetry
- ☐ Know how to identify the focus and directrix of a locus

Ch. 9- Solving Quadratics

Know the methods for solving a quadratic equation, and when one method is better used (this will help you with time management)

- ☐ Factor and solve $(x+3)(x+4)=0$
- ☐ Solve algebraically $x^2 - 9 = 0$
- ☐ Complete the Square $x^2+ 6x = 0$
- ☐ Quadratic formula
  - ☐ How to use and apply the quadratic formula
  - ☐ How to use and apply the discriminant
- ☐ Know how to solve given quadratics without being told which method to use
- ☐ Know how to set a quadratic = to 0 first, and then solve. $x^2+ 12 = -7x$

Ch.10 - Radicals

- ☐ Simplify simple radicals
- ☐ Simplify simple radicals with imaginary roots (like the sqrt of -25)
- ☐ Basic imaginary number rules
- ☐ Apply multiplication and division property of radicals
- ☐ Solve square root equations (and cube root, 4^{th}, 5^{th}, etc...)
- ☐ Graph simple square root functions in vertex form
- ☐ Find and graph the inverse of a function (and find restrictions as needed)
- ☐ graphing cube roots

Rational Expressions Unit

- ☐ Solve a proportions with single variables and expressions
- ☐ Simple work problems
- ☐ Multiply/divide rational expressions
- ☐ Add/Subtract rational expressions
- ☐ Simple long division with polynomials

Other Supplemental Lessons

- ☐ Pythagorean Theorem
- ☐ Finding the distance between two points using Py.Th.
- ☐ Solving simple real-world problems using Py. Th.
- ☐ Finding the midpoint between two points

You will not see the following on your final exam:

- Ch. 11 in your book
-Volume of cones / spheres
-Angles