

Exam 1 Review
Precalculus

September 2026
Prof. Nollet

Look over all of your homework, quizzes, and notes to try to overcome problems you might have had there. Practice similar problems with book closed. Exam will be heavier on chapter 1 than chapter P.

Chapter P Real number line, absolute value, distance, basic rules of algebra. Powers a^n and radicals $\sqrt[n]{a}$, properties of radicals, simplifying radical expressions. Adding, subtracting, multiplying polynomials, FOIL, difference of squares. Factoring polynomials, recognize difference of squares. Rational expressions: domain and simplification. Adding, subtracting (need common denominator), multiplying and dividing rational expressions. Rectangular coordinate system, plotting points, distance formula, midpoint formula.

- 1.1 Graph of an equation, x and y intercepts, checking for symmetry. Standard equation of a circle.
- 1.2 Solve linear equations $ax + b = 0$ and equations that reduce to them.
- 1.4 Solve quadratic equations $ax^2 + bx + c = 0$. When $b = 0$, take square roots. Otherwise you can solve by factoring (see P.4), completing the square, or using the quadratic formula.
- 1.6 Solving equations that come from quadratic equations, equations with square roots, equations involving absolute value, polynomial equations (factor!) and rational equations. Check for false solutions, especially when you square both sides of an equation or solve a rational equation.
- 1.7 Solve linear inequalities, writing answer with interval notation. Be careful with your algebra!
- 1.8 Solving polynomial/rational inequalities with 3 step process: (1) Rewrite with 0 on one side, (2) find critical values where the other side can change signs, where top or bottom of fraction equal 0, then (3) Find solution by using test intervals with endpoints from step 2. At the end, remove false solutions.

The book has review exercises that can help (pages 62-64 and 152-154). Also see chapter tests.