

PDEV 100  
Exam 2 Review Sheet

**Section 1.1** Linear and Quadratic Equations in One Variable

- Know and be able to apply the properties of equality (addition and multiplication) and the zero-factor property in order to solve equations.
- Understand the definition of the solution set of an equation.
- Know and apply the methods necessary to solve linear and quadratic equations in one variable (solving by factoring).
- Be able to eliminate fractions and decimals from equations by multiplying.
- Be able to recognize equations with no solution and equations that are identities.

**Section 1.2** Formulas

- Know what a formula is, and be able to evaluate formulas given values for the variables.
- Be able to solve for a single variable in formulas or various types.
- Know basic geometric formulas, such as formulas for perimeter and area.
- Be able to solve percent problems.

**Section 1.3** Application Problems

- Know and be able to carry out the blueprint for problem solving.
- Be careful to begin each application problem by defining all the variables used.
- End by stating your solution in a sentence describing how it relates to the original situation.

**Section 1.4** Linear Inequalities in One Variable

- Know the properties of inequalities. Pay special attention to multiplication where you need to reverse the inequality.
- Be able to graph the solution to a linear inequality on a number line.
- Be able to express the solution to a linear inequality in interval notation.
- Understand compound inequalities - both the “and” case and the “or” case.

**Section 1.5 and 1.6** Absolute Value Equations and Inequalities

- Know how to solve absolute value equations by splitting into two cases, including equations with more than one absolute value sign.
- Be able to recognize absolute value equations and inequalities that have no solution and those that are always true.
- Be able to solve absolute value inequalities by splitting into two cases.
- Know how to write absolute value inequalities as compound inequalities.

**Section 2.1 and 2.2** Paired Data, Cartesian Coordinates, and the Slope of a Line

- Understand the Cartesian plane, including the origin and the four quadrants.
- Understand ordered pairs and be able to graph them.
- Know the definition of a linear equation in two variables, be able to graph lines and find the  $x$  and  $y$ -intercepts of a line.
- Memorize the slope formula, understand the idea of slope, and be able to find the slope of a line given two points on the line.
- Be able to recognize the equations of horizontal and vertical lines and be able to graph them.
- Understand the relationship between the slopes of parallel and perpendicular lines.

**Section 2.3 and 2.4** The Equation of a Line and Linear Inequalities in Two Variables

- Know the three different forms of the equation of a line: standard form, slope/intercept, and point/slope
- Be able to find the slope and intercept of a line and graph it using slope/intercept form.
- Be able to find the equation of a line given a point and the slope of the line.
- Be able to find the equation of a line given two points.
- Be able to graph the solution of a linear inequality by graphing the related line and using a test point

**Practice Problems: Chapter 1 Review p. 169-171 # 3, 7, 9, 11, 15, 16, 17, 20, 26, 30, 35, 39, 42, 47, 52, 55, 57, 60, 63, 66**

**Practice Problems: Chapter 2 Review p. 269 # 1, 2, 3, 5, 7, 10, 13, 15, 17, 18, 20, 21, 22**