Math 103 Intermediate Algebra
Test 1 Review Sheet
Winter 2023
Test 1 covers Sections 2.1 – 4.1

Equations: Linear and Absolute Value
- ☐ Be able to solve a linear equation and check the result. (Section 2.1)
- ☐ Know when a linear equation has no solution or is an identity. (Section 2.1)
- ☐ Be able to solve equations with fraction or decimal coefficients. (Section 2.1)
- ☐ Be able to solve an absolute value equation and check the result. (Section 2.7)
- ☐ Know when an absolute value equation has no solution. (Section 2.7)

Inequalities: Linear, Compound, and Absolute Value
- ☐ Given an inequality, sketch the graph of the inequality. (Section 2.5)
- ☐ Be able to solve a linear inequality. (Section 2.5)
- ☐ Be able to solve a compound inequality. (Section 2.6)
- ☐ Know when a compound inequality has no solution or when the solution is all real numbers. (Section 2.6)
- ☐ Be able to solve absolute value inequalities. (Section 2.7)
- ☐ Know when an absolute value inequality has no solution or when the solution is all real numbers. (Section 2.7)
- ☐ Be able to sketch the graph of the solution to a linear inequality in two variables. (Section 3.4)

Systems of Equations
- ☐ Be able to solve a system of equations in two variables by the method of substitution. (Section 4.1)
- ☐ Be able to solve a system of equations in two variables by method of elimination. (Section 4.1)
- ☐ Know when a system of equations has no solution or has infinitely many solutions. (Sections 4.1)

Lines
- ☐ Be able to sketch the graph of a line. (Section 3.2)
- ☐ Know how to find the slope of a line. (Section 3.2)
- ☐ Know how to write the equation of a line in three different forms: slope-intercept form, point-slope form, and standard form. (Sections 3.3)
- ☐ Know how to find the equation of a line which satisfies various conditions. (Section 3.3)
- ☐ Know the relationship between the slopes of parallel lines. (Section 3.2)
- ☐ Know the relationship between the slopes of perpendicular lines. (Section 3.2)

Relations and Functions
- ☐ Be able to find the domain and range of a given relation or function. (Sections 3.5 and 3.6)
- ☐ Be able to determine whether a given relation is a function. (Section 3.5)
- ☐ Know how to use the vertical line test. (Section 3.6)
- ☐ Know how to use function notation and be able to evaluate a function. (Section 3.5)
- ☐ Be able to sketch the graphs of basic functions. (Section 3.6)

Formulas and Application Problems
- ☐ Be able to solve a formula for a specific variable (Section 2.3)
- ☐ Be able to use formulas to solve geometry applications. (Section 2.3)
- ☐ Be able to solve mixture word problems. (Section 2.4)
- ☐ Be able to solve uniform motion applications. (Section 2.4)
- ☐ Be able to solve word problems from the following sections: 2.3, 2.4, 2.5, and 3.2.

Review Exercises

Chapter 2 Review (pages 218-224): 497, 499, 501, 505, 509, 511, 513, 515, 541, 543, 547, 549, 551, 553, 555, 557, 559, 563, 565, 569, 573, 575, 579, 581, 587, 593, 595, 597, 599, 601, 603, 607, 609, 611, 615, 617, 619, 621

Chapter 3 Review (pages 356-365): 419, 423, 425, 427, 431, 435, 437, 441, 443, 445, 447, 449, 451, 453, 455, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 485, 487, 493, 495, 497, 499, 501, 505, 507, 509, 511, 513, 515, 517, 519, 521, 527, 529, 531, 533

Chapter 4 Review (pg 486): 337, 341, 343, 345, 347