

Math 03: Introductory Algebra

1. Introduction:

Math 03 is designed to introduce and develop basic algebra skills and basic geometry concepts. It covers real numbers, linear and quadratic equations, inequalities, exponents, polynomials, factoring, the Cartesian coordinate system, rational expressions and applications, lines and angles, polygons, perimeter, area, and volume of geometric figures.

2. Prerequisites:

Math 02 (Basic Arithmetic) or placement recommendation for Math 03 or the equivalent.

3. Instructional Materials:

**Textbook: Introductory Algebra by Miller, O'Neill, Hyde 2nd ed.
A scientific calculator is recommended but may not be used before Section 2.2.**

4. Overall Objectives:

- a. Perform operations with signed numbers.**
- b. Solve equations and word problems.**
- c. Perform operations on polynomials.**
- d. Factor expressions.**
- e. Perform operations on rational expressions.**
- f. Use Cartesian coordinate plane to graph linear equations.**
- g. Learn vocabulary and concepts of introductory geometry and be able to manipulate and evaluate formulas.**

5. Attendance Policy:

It is expected that you will attend every class session. Mathematics is a comprehensive subject and builds on itself. If you are unable to attend a session, contact the instructor or a classmate to find out what was missed. You are responsible for reading the sections covered that day, and completing the assignments as listed on the syllabus. More than 10% absence of the class sessions for the semester constitutes unsatisfactory attendance and will place you in jeopardy of being withdrawn from class.

6. Supplements:

Videotapes covering every section and keyed to the text are located in the Learning Lab and the Math Lab. Tutorial software covering every section is on your DVD. Use the registration code in your textbook to access the website for this text. Free tutoring is also available-ask your instructor for details.

7. Disability Services Policy:

Reasonable accommodations will be made for students with disabilities, provided those students have registered with the Office of Disability Services. Present your teacher with the documentation.

**TIDEWATER COMMUNITY COLLEGE
CLASSROOM AND LABORATORY
EMERGENCY PROCEDURES FOR FACULTY**

In the event of a bomb threat, tornado, or fire, students and staff may be asked to evacuate the building or move to a secure location within the building. Evacuation routes for movement to an external location or to a shelter within the building are posted at the front of the room. Students should review the maps and make sure that the exit route and assembly location for the building are clearly understood. If you have a disability that may require assistance during an evacuation, please let your faculty know at the end of the first class.

Text: Introductory Algebra by Miller, O'Neill, Hyde 2nd ed.

Chapter R: Reference

- R1 Study Tips**
- R2 Fractions**
- R4 Introduction to Geometry**

Chapter 1 Set of Real Numbers

- 1.1 Sets of Numbers and the Real Number Line**
- 1.2 Exponents, Square Roots and Order of Operations**
- 1.3 Addition of Real Numbers**
- 1.4 Subtraction of Real Numbers**
- 1.5 Multiplication and Division of Real Numbers**
- 1.6 Properties of Real Numbers and Simplifying Expressions**

Chapter 2 Linear Equations and Inequalities

- 2.1 Addition, Subtraction, Multiplication and Division Properties of Equality**
- 2.2 Solving Linear Equations**
- 2.3 Linear Equations: Clearing Fractions and Decimals**
- 2.4 Applications of Linear Equations: Introduction to Problem Solving**
- 2.5 Applications Involving Percents**
- 2.6 Formulas and Applications of Geometry**
- 2.7 Mixture Applications and Uniform Motion**
- 2.8 Linear Inequalities**

Chapter 3 Graphing Linear Equations in Two Variables

- 3.1 Rectangular Coordinate System**
- 3.2 Linear Equations in Two Variables**

Chapter 5 Polynomials and Properties of Exponents

- 5.1 Exponents: Multiplying and Dividing Common Bases**
- 5.2 More Properties of Exponents**
- 5.3 Definitions of b^0 and b^{-n}**
- 5.4 Scientific Notation**
- 5.5 Addition and Subtraction of Polynomials**
- 5.6 Multiplication of Polynomials**
- 5.7 Division of Polynomials**

Chapter 6	Factoring Polynomials
6.1	Greatest Common Factor and Factoring by Grouping
6.2	Factoring Trinomials of the Form $x^2 + bx + c$
6.3	Factoring Trinomials: Trial-and-Error Method
6.4	Factoring Trinomials: AC Method (optional)
6.5	Difference of Squares and Perfect Square Trinomials
6.6	Sum and Difference of Cubes
6.7	Solving Equations Using the Zero Product Rule
6.8	Applications of Quadratic Equations

Chapter 7	Rational Expressions
7.1	Introduction to Rational Expressions
7.2	Multiplication and Division of Rational Expressions
7.3	Least Common Denominator
7.4	Addition and Subtraction of Rational Expressions
7.5	Complex Fractions
7.6	Rational Equations
7.7	Applications of Rational Equations and Proportions

Chapter 8	Radicals
8.1	Introduction to Roots and Radicals

Chapter 9	More Quadratic Equations
9.3	The Quadratic Formula

Homework:

Week	Section	Page	Assignment
1	R1	2	Read pages 2 & 3
	R2	17	41,45,49,53,54,55,57,61,63,67,69,71,73,75,77,81,83,85,87,89,99,101,110,114,119,121
	1.1	53	3,5,7,11,15,17,19,26-31, 33,35,37,39,51,53,55,65,69,71,83,87
	1.2	63	9,11,13,15,17,23,25,29,31,33, 35,39,43,49,51,55,61,63,77.81,85,89,91,93,95,97,99,101,103
2	1.3	71	17,21,25,29,35,39,43,47,55,69,75,77,79,81-89 odd

	1.4	80	19,21,23,25,31,35,39,43,47,51,53,61,63,65,67,69,77, 81,83,97,103
	1.5	90	45,47,49,53,57,59,61,63,67,69,81,83,85,95,99,101,105,119,123,125,129,135,139,143,145
	1.6	102	3,5,7,9,11,13,35,36,37,38,39,41,47,51,63-71,77,83,87,89,93,97,101,109,111
3	3.1 Review Test #1	211	7,11,13,15,23
4	2.1	124	3,5,11,13,17,19,21,29,35,37,39,41,43,45,49,51,55,57,59,61,65,67,69,71,73,79,83,87,89
	2.2	133	3,5,7,9,11,13,15,17,19,23,29,31,37,41,47,49,59,61,63,71,73,75,81,85
	R4	37	1,2,3,7,9,11,13,17,19,21,23,25,27,29,31,63,65,69,73,75,77,79,81,83,85,93,95,97
5	2.3	141	15,17,19,21,27,29,31
	2.4	149	3,5,7,9,11,13,15,21,23,31,35,45
	2.5	157	5,7,9,11,13,15,17,21,25,33,35,41,43
6	2.6	165	3,5,9,11,15,17,21,23,29,35,37,39,41,43,45,47,51,53,55,57,61
	2.7	174	7,9,11,13,15,17,19,21,23,25,29,31,33,37,45,49,51
	2.8	188	23,25,27,29,37,39,41,47,49,63,65,73,91,93,95,97
7	3.2 Review Test #2	224	3,5,7,9,11,19,21,25,33,37,39,41,47,55,62,63,67,69,71,73
8	5.1	367	3,5,7,17,23,31,33,35,39,41,45,47,49,51,53,59,61,63,65,69,73,75,77,79,81,83,85,89,91,93,103,107
	5.2	373	1-21 odd, 27-41 odd, 43,45,61,63,67,71
	5.3	381	3,5,7,11,13-23 odd, 29-41odd, 45,49,51-73 odd, 81, 83, 85. 89

	5.4	387	17-27 odd, 37-47 odd
9	5.5	396	13-21 odd, 27, 29, 33, 37, 39, 49, 53, 55, 59,63,65,69,71,77,83
	5.6	404	11,15,17,19,23,25,27,33,35,39,45,53,57, 65,71,89,91,93,97,105,113
	5.7	412	1,3,5,9,15-29 odd, 33-41 odd, 47, 49
	Review		
10	Test #3		
	6.1	435	17 -35 odd, 37a,39,47,49,53 – 65 odd, 73
	6.2	441	7-19 odd, 37,39,43,45
	6.3	450	13,15,17,19,23,27,31,33,35,45,47,49,51, 65,73,77,81
(optional)	6.4	457	13,15,17,19,27,31,43,45,47,51
11	6.5	463	3,7,9,15-25 odd, 29, 35, 51-57 odd, 63,67
	6.6	469	15,17,19,21,23,29,31,33,35,41,45
	6.7	477	15,17,19,25,27,29,31,33,39,43,45,47,49,69
	6.8	484	17,25,27,29,31
12	8.1	589	17-31 odd, 35,37,47,51,53
	9.3	667	9,13,16,17,19,23,25,57
	Review		
	Test #4		
13	7.1	506	13,15,17,19,33,37,39,41,43,47,51,59,63,65 69,71,75,87,91,97,99
	7.2	512	1,3,7,9,15,17,21,25,27,29,33,37,41,45,47,53
	7.3	518	13-27 odd, 35,39,43,45,47,53,55
	7.4	526	7,9,11,21,23,31,35,37,43,47,49,51,53,55,61
14	7.5	535	7,15,19,21,25
	7.6	545	17,23,27,31,33,39,51,53,55,59
	7.7	555	9,13,17,19,21,25-35 odd
	Review		

15 **Test #5**
Review for exam

16 **Exam**