### Math Resource Center STUDENT STUDY GUIDE

### MTH 60 – BEGINNING ALGEBRA

#### Self-Paced and VARIABLE CREDIT (1, 2, 3, or 4)

I have enrolled for \_\_\_\_\_ credits of Math 60, computer registration number (CRN)\_\_\_\_\_.

#### **REQUIRED TEXT with On-Line Access Code:**

<u>Introductory and Intermediate Algebra</u>, 3<sup>rd</sup> Edition, by Robert Blitzer Pearson Prentice Hall Publishing Company + MyMathLab On-Line Access Code

#### **SUPPLEMENTARY RESOURCES:**

- 1. Get help from the tutors that are available in the MRC Tutoring Room 163.
- 2. Use the quiet study room if Room 163 is too noisy.
- 3. Check out individual math topic Video Tapes from the Reception Counter staff.
- 4. Refer to the "Student Solutions Manual" if you get stuck.
- 5. Use on-line MyMathLab resources.
- 6. Take practice tests before the graded tests. Go to the MRC Reception Counter, Room 169.

#### **OVERVIEW OF COURSE:**

Credit	Chapter and Topic	Test covers
1 <sup>st</sup> credit	Chapter 1.1 – 1.4 - Variables, Real Numbers, and	Test 1: Ch 1
	Mathematical Models	
	Chapter 1.5 – 1.8 – Remainder of Chapter 1	Test 2: Ch 1
2 <sup>nd</sup> credit	Chapter 2.1 – 2.3 - Linear Equations in One Variable	Test 3: Ch 2
	Chapter 2.4 – 2.5 – Formulas, Percents, Problem Solving	Test 4: Ch 2
3 <sup>rd</sup> credit	Chapter 2.6, 7.7 – Geometry, Ratio & Proportion	Test 5: Ch 2 & 7.7
	Chapter 2.7, 3.1-2 – Inequal. & Linear Eqns. In 2 Vars.	Test 6: Ch 2.7 & 3.1-3.2
4 <sup>th</sup> credit	Chapter 3.3 – 3.5 - Linear Equations In 2 Variables	Test 7: Ch 3.3-3.5
	Cumulative Review - Chapters 1, 2, 7.7, 3	Test 8: Ch 1, 2, 7.7, 3

- NOTE: As you begin this course you must be able to ADD, SUBTRACT, MULTIPLY, and DIVIDE WITHOUT THE USE OF A CALCULATOR and be knowledgeable of basic mathematics skills including whole numbers, fractions, mixed numbers, decimal notation, percent, and ratio & proportion. If you lack these skills consider enrolling in Math 20, Basic Math Review.
- **CALCULATOR:** A scientific calculator is required and useful in this course. However, we encourage you to do most of your numeric work in this course by hand (to reinforce basic skills) THEN use a calculator to check your work. You are to provide your own calculator. Some exams do not allow use of calculators with the intention of helping you to maintain computational skills.

## HINTS FOR SUCCESS and HOW TO DO YOUR HOMEWORK:

- 1. Establish a regular daily schedule for doing your math homework and stick with it.
- 2. Try to do your work in the Math Resource Center where tutor help is available when you need it.
- 3. Try to stay on schedule to meet your <u>suggested</u> "On Schedule" test dates.
- 4. Use the tutors and video tapes.
- 5. Follow the Lesson/Homework Assignment guide on the following pages.
- 6. <u>Before starting on the assigned homework</u>, study the text discussion & examples and work "check point" problems for practice.
- Then, neatly work homework problems on your own paper. Try to <u>do them without looking at examples or a solutions manual</u>. You must show each step of your solution. Then grade yourself. Try to fix your mistakes and then get tutor help or refer to the Student Solutions Manual.
- 8. Finally, take your completed homework assignment and *Study Guide* to a tutor to verify completion and receive their stamp of approval.

# HOW TO BE PREPARED & TAKE EXAMS IN THIS COURSE:

- 1. Complete your homework and check it as described above in "Hints for Success."
- 2. After all the assigned work has been checked by a tutor, we suggest you try to work the *Chapter Test* in the text without looking at any solved problems. Grade it and get help if needed. Now you are almost ready to take the graded test.
- 3. With your *tutor stamped Study Guide* go to the Reception Counter and ask for a *Practice Module Test*. Since the only difference between practice and graded tests is that your score on the practice test will not count, taking a practice test gives you a realistic, objective check of your skill level without affecting your grade for the course. Work each question on the test like you did in your homework, showing each step. You are allowed to take more than one practice test, if you so choose. When your practice test score is above 80%, you should be ready to take the graded exam.
- 4. Once you have completed Steps 1, 2, and 3 you are ready to take the *Graded Module Test*. Go to the Reception Counter, show your *Study Guide*, and check in to take the test for a grade. Relax, take your time, show your work, and demonstrate what you have learned. We want you to earn a score of 80% or better before you test on material from the next set of homework assignments.

NOTE:

## Homework will receive a date stamp from a tutor only if it is done <u>neatly</u> with <u>step-by-step solutions</u> shown.

All graphing should be done using graph paper.

## A PAGE OF ANSWERS WITHOUT WORK SHOWN WILL NOT BE ACCEPTED.

## **BEST WISHES & GOOD LUCK !!**

## **CREDIT #1:** Variables, Real Numbers, and Mathematical Models

Student Name: \_\_\_\_\_

Procedure Quiz Completed: \_\_\_\_\_

(Date stamp by Tutor)

**You must show step-by-step solutions (not just a list of answers) to receive credit for your work.** Odd = 1,3,5,7,9,etc.; Eoo = every other odd: 1,5,9,13,17,21, etc.

LESSON	HOMEWORK	Date Stamp from
Chapter & Section	ASSIGNMENT	tutor when completed
Credit #1, Module A: Chapter 1.1 - 1.4		
1.1 Introduction to Algebra: Variables & Math Models	Odd 1-87; All 89-95; 101;	
	<u>All 103-107</u>	/ /
1.2 Fractions in Algebra	Eoo 1-89; Odd 91-129;	
	133; All 145-148	
1.3 The Real Numbers	Foo 1-29:33 34: Odd 35-	
	43' Foo 45-69' Odd 71-87'	
	95 101 105 All 107-110	
Obtain Real Numbers "Family Tree" from a Tutor	Odd 113-121: 122 123	/ /
	000 115 121, 122, 125	
1.4 Basic Rules of Algebra	Odd 1-79: 80, 81; Odd 89-	
Ŭ	93	/ /
Mid-Chapter Check Point Sections 1.1-1.4	All 1-25	/ /
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Practice Test 1: score date:	Take Test #1	"On Schedule" Test
Graded Test 1: score date:	(No Calculator allowed)	Date:
Credit #1, Module B: Chapter 1.5 - 1.8		
1.5 Addition of Real Numbers	Odd 1 61: 62: Odd 65 81:	
	85: Odd 91-97: All 102-	
	104	/ /
1.6 Subtraction of Real Numbers	Odd 1-103: 107: All 114-	
	121: All 125-127	/ /
1.7 Multiplication and Division of Real Numbers	Odd 1-127; Odd 133-141;	
1	All 146-148	/ /
1.8 Exponents and Order of Operations	Odd 1-27; Eoo 29-69; Odd	
	73-99; All 103-107; Odd	
	<u>109-115; All 118-120</u>	/ /
Chapter 1 Review Exercises	Odd 1-103	/ /
	m 1 m . //a	
Practice Test 2: score date:	Take Test #2	"On Schedule" Test
Graded Test 2: score date:	(No Calculator allowed)	Date:
1	End of Credit #1	

Answers to **even numbered problems** from assignments above: 104: F, 106: F, 146: F, 148: F, 108: makes sense, 110: does not make sense, 122: -0.414, -1 and 0, 62: 14, 114: T, 116: T, 118: positive, 120: negative

# **CREDIT #2:** Linear Equations and Inequalities in One Variable

**You must show step-by-step solutions (not just a list of answers) to receive credit for your work.** Odd = 1,3,5,7,9,etc., Eoo = every other odd: 1,5,9,13,17,21, etc.

LESSON	HOMEWORK	Date Stamp from
Chapter & Section	ASSIGNMENT	tutor when completed
Credit #2, Module A: Chapter 2.1 - 2.3		
2.1 The Addition Property of Equality	Odd 1-83; All 84-86	/ /
2.2 The Multiplication Property of Equality	Odd 1-87; All 88-90	/ /
2.3 Solving Linear Equations	Odd 1-95; All 96-98	/ /
Chapter 2 Review Exercises (After Ch. 2 Summary)	All 1-29	/ /
Practice Test 3: score date:	Take Test #3	"On Schedule" Test
Graded Test 3: score date:	(No Calculator allowed)	Date:
Credit #2, Module B: Chapter 2.4 - 2.5		
2.4 Formulas and Percents	Odd 1-55; All 57-60; Odd 61-89; Odd 101-109	/ /
2.5 An Introduction to Problem Solving	Odd 1-45; Odd 51-59; All 63-65	/ /
Chapter 2 Review Exercises (After Ch. 2 Summary)	All 30-56	/ /
Practice Test 4: score date:	Take Test #4	"On Schedule" Test
Graded Test 4 : score date:	(No Calculator allowed)	Date:
	End of Credit #2	

Answers to even numbered problems from assignments above: 58: 80%, 60: 25%

# **CREDIT #3:** Geometry, Ratio & Proportion, Linear Inequalities, Graphing Linear Equations

**You must show step-by-step solutions (not just a list of answers) to receive credit for your work.** Odd = 1,3,5,7,9,etc., Eoo = every other odd: 1,5,9,13,17,21, etc.

LESSON	HOMEWORK	Date Stamp from
Chapter & Section	ASSIGNMENT	Tutor when completed
Credit #3, Module A: Chapter 2.6, 7.7		
2.6 Problem Solving in Geometry (sketches required)	Odd 1-77; Odd 81-91; All 92-94	/ /
7.7 Applications Using Ratio & Proportion (Only examples 3, 4, 5, and 6) Even answers: 26: 8", 28: 1.25", 30: 6', 32: 71.7'	Odd 17-23; All 25-32	/ /
Mid-Chapter Checkpoint Sections 2.1-2.4 (before 2.5)	All 1-18	/ /
Do a self-study review solving some extra problems before testing.	Borrow our formula sheet for the exam if needed.	
Practice Test 5: score date: Graded Test 5: score date:	Take Test #5 (Calculator Use OK)	"On Schedule" Test Date:
Credit #3, Module B: Chapter 2.7, 3.1 - 3.2		
2.7 Solving Linear Inequalities Even answers: 114: div. or mult. by negative, 128: $[6.5,\infty)$	Eoo 1-113; All 114-116; Odd 119-125; All 127-131.	/ /
3.1 Graphing Equations in Two Variables	Odd 1-75; Odd 81-93; Odd 103-109; All 117-119	
3.2 Graphing Linear Equations Using Intercepts Selected even answers: 72: 17 to 30 secs., 74: y=45 constant height of 45 ft. for 1 <sup>st</sup> 3 seconds	Odd 1-69; All 71-75; All 77-79; All 85-87, 89, 91; All 98-100	/ /
Chapter 2 Review Exercises (After Ch. 2 Summary) Chapter 3 Review Exercises (After Ch. 3 Summary)	Odd 57-89 All 1-21	/ / / /
Practice Test 6: score date: Graded Test 6: score date:	Take Test #6 (Calculator Use OK) <b>End of Credit #3</b>	"On Schedule" Test Date:

## **CREDIT #4:** Linear Equations in Two Variables and Course Cumulative Review

You must show step-by-step solutions (not just a list of answers) to receive credit for your work. Odd = 1,3,5,7,9,etc., Eoo = every other odd: 1,5,9,13,17,21, etc.

LESSON	HOMEWORK	Date Stamp from
Chapter & Section	ASSIGNMENT	tutor when completed
Credit #4, Module A: Chapter 3.3 - 3.5		
Hand sketches are very useful on this material and help you catch mistakes.		
3.3 Slope- hand sketches required on ALL problems from 1-35 (see examples from figures 3.21, 3.22)	Odd 1-49; All 51-56; Odd 57-65; All 72-74	/ /
3.4 The Slope-Intercept Form of the Equation of a Line	Odd 1-49; Odd 57-61; 79, 80, 81	/ /
3.5 The Point-Slope Form of the Equation of a Line	Odd 1-73; Odd 77-83; All 87-89	/ /
Practice Test 7: score date:	Take Test #7	"On Schedule" Test
Graded Test 7: score date:	(Calculator Use OK)	Date:
Credit #4, Module B: Course Cumulative Review		
Chapter 2 Review Exercises (after Ch.2 Summary)	Even 58-76	/ /
Cumulative Review Exercises (Ch.1-2) at the very end of Chapter 2	All 1-20	/ /
Cumulative Review Exercises (Ch.1-3) at the very end of Chapter 3	All 1-20	/ /
Chapter 3 Test, After Chapter 3 Review Exercises	All 1-19	/ /
Chapter 7 Review Exercises, Before the Ch.7 Test	All 66-69	/ /
Practice Test 8: score date: Graded Test 8: score date:	Take Test #8 (Calculator Use OK) <b>End of Credit #4</b>	"On Schedule" Test Date:

#### CONGRATULATIONS !!!

You have now completed the 4 credit Math 60 Course.

Most people keep a dictionary around the house for reference. It might be a good idea for you to also keep your <u>Introductory & Intermediate Algebra</u> book as a reference.

Also, if you are continuing on with Math 65 you will be using this same textbook.