Lane Community College Mathematics Division

Analysis of Spring Term 2006 MTH 111 Data

I. Assessment of prerequisite algebra skills

For Spring Term 2006, the Mathematics Division administered pre- and post-tests in six of the twelve sections of MTH 111 (College Algebra) offered. Of the 312 students enrolled in MTH 111, at the end of Spring Term 2006, 117 completed both the pre-test and the post-test. These tests focused on eight prerequisite algebra skills that faculty believe are essential for success in MTH 111. These results, summarized in the following table (data charts and graphs are attached at the end of this analysis), show that students made improvements in <u>all</u> their prerequisite algebra skills, ranging from 3 to 21.4 percent.

Торіс	% Improvement				
Evaluate Quadratic Expression	3.0				
Graph Linear Equation	3.8				
Interpret Slope of a Line	5.1				
Interpret Intercept of a Line	10.3				
Evaluate Exponential Expression	18.6				
Simplify Rational Expression	21.4				
Properties of Quadratic Function	18.1				
Solve Rational Equation	10.9				

The Math Division is continuing to collect data using pre- and post-tests and will use the data as one measure of the effects of curricular changes in MTH 111 and of the implementation of special projects such as the Supplemental Instruction for MTH 111 which is being developed Winter and Spring terms and will be available to students, Fall 2007.

II. Assessment of critical thinking and problem solving skills

In addition to pre- and post-tests, MTH 111 instructors have also been administering four common questions which focus on critical thinking and problem solving on the MTH 111 final exam. For spring term 2006, the average score on these questions for the 150 students who took the common final exam was 59%. Based on these results, the Mathematics Division decided to target MTH 111 for a Supplemental Instruction proposal with a focus on problem solving.

III. Study of relationship between pre-test scores and common final exam scores

An additional study we are conducting is to determine if pre-tests scores can be used as a predictor of common final exam scores. For spring 2006 we found only a weak correlation ($r \approx 0.39$).

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Value-Added Data – Spring 2006

	Evaluate Expression	Linear Graph	Slope Interpretation	Intercept Interpretation	Evaluate Exponential	Simplify Rational Expression	Quadratic Properties	Rational Equation	Evaluate Expression	Linear Graph	Slope Interpretation	Intercept Interpretation	Evaluate Exponential	Simplify Rational Expression	Quadratic Properties	Rational Equation
	Pre-1	Pre-2	Pre-3	Pre-4	Pre-5	Pre-6	Pre-7	Pre-8	Post-1	Post-2	Post-3	Post-4	Post-5	Post-6	Post-7	Post-8
sum	410	387	143	161	427	78	333	321	424	405	155	185	536	128	460	372
count	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
mean	88	83	61	69	73	33	47	69	91	87	66	79	92	55	66	79



Pre-test/Common Final Data – Spring 2006

