Assessment Date: Aug 17 2014

Faculty Name(s): Chieko Honma

1. Course Name and Number:

Math 155 Math for the Associate Degree

2. All Course SLOs from the Course Outline of Record:

1. Demonstrate problem solving skills by applying mathematical principles and techniques in real world areas.
2. Demonstrate critical thinking by examining and solving mathematical puzzles.
3. Analyze games of chance using probability theory and formulas.
4. Examine statistical principles used to display, interpret and analyze data.
Investigate how math is used in various professions such as sports, carpentry, nursing, music, cooking, etc.

3. Specific Course SLO(s) assessed as part of this project:

1. Demonstrate problem solving skills by applying mathematical principles and techniques in real world areas.

4. Will this SLO assessment count toward GE Plan A? _X__Yes   ____ No

If Yes, identify what area: ___Area I Natural Sciences ___Area II Social and Behavioral Sciences  ___Area III Fine Arts/Humanities  _X___Area IV Language and Rationality ___Area V Physical Education/Wellness  ___Area VI Intercultural/International Studies

Identify GE SLO(s) assessed as part of this project (see Catalog pages 49-51):

Analytical Thinking

5. Assessment strategy or tool used in the assessment. (Describe below, and if applicable copy/paste any additional related documents at end of this form (i.e. Rubric, score sheet, test questions, essay assignment, etc.)

Quizzes, Chapter Tests, and Final Exam

NOTE: This will usually consist of things you are already using to evaluate student work, i.e. Final Exam questions, Final Essay, Final Presentation or Culminating Project, other Assignments, Portfolio Evaluation, Performance Assessment, Department Testing, Pre and Post
6. **Specific aspects of the assessment tool which link up to specific Course SLOs being assessed** (i.e. Which specific test questions measured which Course SLOs? Note: May describe with #4 above.):

In Math 155, students learn to solve real life problems applying percentage, simple and compound interests, trigonometry, statistics, unit-conversion and geometry. Two or one application problems were included in each exam.

7. **Results and analysis of the data.** *(Explain below and if applicable copy/paste any related documents, i.e. spreadsheets with data, at the end of this document.)*

See the attached.

8. **Describe any faculty dialogue that occurred as part of the assessment process** (i.e. Were results shared at a department meeting? Was there discussion about changing any SLOs? Etc.):

Not Available

9. **Next steps** (i.e. any planned revisions to curriculum or teaching strategies to promote student success, future assessment plans, etc.):

Math 155 is not an easy class to teach. Last few years only adjunct faculty members have been teaching, but they teach only one semester and are not willing to continue to teach this course. However, the topic taught in Math 155 are very useful and practical. Instead using textbook, giving real life problems may raise students’ interest and may promote their success.

10. **Results of implemented changes, if available at this time:**

Not Available

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**Please save your finished document in the following format.** *(Date should be for the semester in which data was collected; same date should be listed at top of this form.)*

`yyyysemester-sloa-courseid.doc`

*example: 2013fall-sloa-engl101c.doc*
Chapter 2 Test
1. Julie invests $24,000 into an account which earns an annual simple interest of 5.8%. She intends to leave the money in the account for 8 months. How much money, including principal and interest, can be withdrawn at the end of this time?

2. Julio decided to invest $900 each month onto a retirement account that has annual earnings of 5.52%, compounded monthly. If Julio continues investments for 15 years, how much will he have in the retirement account?

Chapter 3 Test
1. A bedroom is a 12 ft by 14 ft rectangle. How much would it cost to carpet the room if the carpet, pad, and installation cost $62.75 a square yard?

2. From a point 50 m from the bottom of a radio tower, the angle of elevation to the top of the tower is 67°. Make a sketch and find the height of the tower.

Chapter 4 Test
1. A customer requests that a polling company produce a survey with a 90% confidence level and a margin of error of 1%. How many people must respond to the survey?

Chapter 5 Test
1. A tennis court is a rectangle with a width of 36 feet and a length of 78 feet. What is the distance from one corner of the court to the opposite corner of the court?

2. Cyclist Joan Joesting-Mahoney biked the perimeter of Australia 9,631 miles in 140 days. What was her average speed in miles per hour?

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The data were collected by Huyen Nguyen
Students’ answers were divided into four categories:
  1. Setting up an equation correctly and giving a correct answer
  2. Setting up an equation correctly but giving a wrong answer
  3. Setting an equation incorrectly but giving a correct answer
  4. Setting an equation incorrectly and giving a wrong answer (including no equation or no answer)
<table>
<thead>
<tr>
<th>Test</th>
<th>Question</th>
<th>1. Setting up an equation correctly and giving a correct answer</th>
<th>2. Setting up an equation correctly but giving a wrong answer</th>
<th>3. Setting an equation incorrectly but giving a correct answer</th>
<th>4. Setting an equation incorrectly and giving a wrong answer (including no equation or no answer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch 2 Simple/Compound Interests</td>
<td>1</td>
<td>2</td>
<td>12</td>
<td>0</td>
<td>1</td>
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<td>2</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>8</td>
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<tr>
<td>Ch 3 Trig/Geometry/Unit-conversion</td>
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<td>3</td>
<td>6</td>
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<td>2</td>
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<td></td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>6</td>
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<tr>
<td>Ch 4 Statistics</td>
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<td>5</td>
<td>2</td>
<td>0</td>
<td>4</td>
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<tr>
<td>Ch 5 Pythagorean Theorem/Unit-conversion</td>
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<td>1</td>
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<tr>
<td></td>
<td>2</td>
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<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Observation:
Chapter 2 Test
Question 1 involves the simple interest concept. Only 2 out of 15 were able to answer correctly, but 12 students were sent up the equation correctly.
Question 2 involves the compound interest, which is more challenging than the simple interest. Four students answered correctly, but more than half of the class gave wrong equations and answers.

Chapter 3 Test
Question 1 involves both unit-conversion and geometry. Three students were correct and 6 students were able to set up equations correctly.
Question 2 involves basic trigonometry, which is challenging for many Math 155 students. The number of students who set up the equation correctly is less than the number of students who could not solve the problem.

Chapter 4 Test
The concept of Question 1 is not easy, but 5 out of 11 students were able to answer correctly.

Chapter 5 Test
Question 1 involves the Pythagorean Theorem, which most of students had learned in previous math class. 9 out of 10 students answered correctly.

Question 2 involves unit-conversion. 6 out of 10 were correct.