

# Course Student Learning Outcomes Assessment

**MATH N48 Pre-Algebra/Algebra Basics**

**Created on: 09/17/2013 03:11:00 PM PST  
Last Modified: 02/24/2015 01:07:12 PM PST**

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## **General Information (Course Student Learning Outcomes Assessment)**

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# Standing Requirements

## Course Description

For students who have little or no previous algebra experience. This course offers an introduction to basic algebra concepts math vocabulary algebraic operations. This course is intended to be a bridge from basic arithmetic to elementary algebra. Not applicable to associate degree.

## Course Student Learning Outcomes

### MATH N48 Pre-Algebra/Algebra Basics Outcome Set

Outcome	
Outcome	Mapping
Outcome 1 Students will be able to recognize, read and apply algebraic vocabulary and symbols.	<b>Institutional Student Learning Outcomes:</b> Act 1, Act 2, Act 3, Communicate 1, Communicate 2, Communicate 3, Learn 1, Learn 2, Learn 3, Think 1, Think 2, Think 3
Outcome 2 Students will be able to perform algebraic operations on polynomials, solve basic linear equations and make connections between solutions to linear equations with two variables and Cartesian graphs.	<b>Institutional Student Learning Outcomes:</b> Communicate 1, Communicate 2, Learn 1, Learn 2, Think 1, Think 2, Think 3
Outcome 3 Students will be able to model real world situations with appropriate mathematical notation and interpret solutions.	<b>Institutional Student Learning Outcomes:</b> Act 1, Act 3, Communicate 1, Communicate 2, Learn 1, Learn 2, Think 1, Think 2, Think 3

## 2014-2015 Assessment Cycle

### Measurements

#### Outcomes and Measures

### MATH N48 Pre-Algebra/Algebra Basics Outcome Set

#### Outcome

##### Outcome 1

Students will be able to recognize, read and apply algebraic vocabulary and symbols.

▼ **Measure:** Math N48 SLO 1 - Fall 2014  
Course level; Direct - Exam

**Description of Measurement Tool:** Students are given a departmental final with embedded questions (30 multiple-choice) pertaining to specific topics for this SLO.

There were 4 out of 8 sections of N48 assessed.

The multiple-choice questions were assessed as either correct or incorrect.

**Criteria for Success: Individual & Collective Student Criterion:** Individually, success is defined as at least 70% (21/30) correct answers. Collectively, success is defined as 60% of the class being individually successful with a mean score of 70%.

**Cycle of Assessment:** This outcome is assessed every three years.

For this report, the data was gathered in Fall 2014, collated, analyzed, reported, and discussed in Spring 2015, with recommendations implemented in Fall 2015.

**Who is Responsible for Assessment Activity?:** The Math N48 coordinator of record for 2014-2015, Scott Sakamoto, is responsible for the assessment.

### Findings

#### Finding per Measure

### MATH N48 Pre-Algebra/Algebra Basics Outcome Set

#### Outcome

##### Outcome 1

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For this report, the data was gathered in Fall 2014, collated, analyzed, reported, and discussed in

Spring 2015, with recommendations implemented in Fall 2015.

**Who is Responsible for Assessment Activity?:** The Math N48 coordinator of record for 2014-2015, Scott Sakamoto, is responsible for the assessment.

**Findings for Math N48 SLO 1 - Fall 2014**

**Summary of Findings:** Thirty multiple-choice questions were embedded into the final exam.

Four of the 8 sections offered were assessed. A total of 129 students were randomly chosen from the four sections were included.

-58% scored at least 70%

-The mean score was 71% (21.2 out of 30).

**Results:** Criteria for Success Achievement Status: Met

**Analysis of Findings:** The percent of students to score at least 70% was close to our goal of 60%. The mean score on the multiple choice part of the N48 final met our goal.

**Recommendations:** In each class, the numbers appeared similar. Only a couple students scored fewer than 15 questions correct and this was not prevalent in any particular class. The percentages were close to our goals, but could still be improved if all N48 teachers were consistent in emphasizing vocabulary and symbols.

The results of this assessment will be given to all N48 instructors and we will include some information on our beginning of the year material as to the importance of vocabulary and symbols.

**Overall Recommendations**

*No text specified*

**Plans of Action**

**Actions**

**MATH N48 Pre-Algebra/Algebra Basics Outcome Set**

**Outcome**

**Outcome 1**

Students will be able to recognize, read and apply algebraic vocabulary and symbols.

**Action: Math N48 SLO 1 Plan of Action - Fall 2014**

**This Action is associated with the following Findings**

No supporting Findings have been linked to this Action.

**Details of Plan of Action:** No Plan of Action required at this time.

**Plan of Action Timeline:**

**Who is responsible for carrying out the Plan of Action?:**

**How will you determine if the Plan of Action has been effective?:**

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

Priority:

## Status Reports

### Action Statuses

#### MATH N48 Pre-Algebra/Algebra Basics Outcome Set

##### Outcome

###### Outcome 1

Students will be able to recognize, read and apply algebraic vocabulary and symbols.

▼ **Action:** Math N48 SLO 1 Plan of Action - Fall 2014

**Details of Plan of Action:** No Plan of Action required at this time.

**Plan of Action Timeline:**

**Who is responsible for carrying out the Plan of Action?:**

**How will you determine if the Plan of Action has been effective?:**

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:**

**Status** for Math N48 SLO 1 Plan of Action - Fall 2014

*No Status Added*

### Status Summary

*No text specified*

### Summary of Next Steps

*No text specified*

## 2013-2014 Assessment Cycle

### Measurements

#### Outcomes and Measures

### MATH N48 Pre-Algebra/Algebra Basics Outcome Set

#### Outcome

##### Outcome 2

Students will be able to perform algebraic operations on polynomials, solve basic linear equations and make connections between solutions to linear equations with two variables and Cartesian graphs.

▼ **Measure:** Math N48 SLO 2  
Course level; Direct - Exam

**Description of Measurement Tool:** In 7 sections of N48, we used a 3 point rubric to grade the word problems from the final.

Rubric –  
3 = Set up equation and find the correct solution  
2 = Set up correct equation and some steps shown  
1 = Some steps shown, but not complete solution  
0 = Blank or off track

**Criteria for Success: Individual & Collective Student Criterion:** Individually, success is earning a 2 or 3 on the 0-3 rubric scale. Collectively, success is defined as 70% of the class being individually successful.

**Cycle of Assessment:** This outcome will be assessed in the fall semester every three years.

For this report, the data was gathered in Fall 2013, collated, analyzed, reported, and discussed in Spring 2014, with recommendations implemented in Fall 2014.

**Who is Responsible for Assessment Activity?:** The Math N48 coordinator of record for 2013-2014, Scott Sakamoto, is responsible for the assessment.

##### Outcome 3

Students will be able to model real world situations with appropriate mathematical notation and interpret solutions.

▼ **Measure:** Math N38 SLO 3  
Course level; Direct - Exam

**Description of Measurement Tool:** In 7 sections of N48, we used a 3 point rubric to grade the word problems from the final.

Rubric –  
3 = Set up equation and find the correct solution  
2 = Set up correct equation and some steps shown  
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**Who is Responsible for Assessment Activity?:** The Math N48 coordinator of record for 2013-



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## Findings

### Finding per Measure

## MATH N48 Pre-Algebra/Algebra Basics Outcome Set

### Outcome

#### Outcome 2

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**Who is Responsible for Assessment Activity?:** The Math N48 coordinator of record for 2013-2014, Scott Sakamoto, is responsible for the assessment.

### Findings for Math N48 SLO 2

**Summary of Findings:** Of the 7 sections offered, 5 sections of N48 were used in the assessment with 10 students from each section (n= 50).

Overall Success Rates:

Translation: 62%

Perimeter: 62%

Age or Coin: 46%

Average was 56% of questions were mastered

**Results:** Criteria for Success Achievement Status: Not Met

**Analysis of Findings:** Mastery of Translation problems dropped 22 percentage points.

Master of Perimeter problems increased 16 percentage points.

Mastery of Age or Coin Reading problems increased 6 percentage points.

Overall mastery of problems dropped 0.7 percentage points (basically stayed even).

**Recommendations:** The success rates outlined in this report are still lower than desired. It is important for teachers to emphasize mastery and review throughout the semester for all topics, including application problems.

Teachers also need to stress the importance of student's working outside of class to be successful.

This information will be shared with all teachers of math N48.

### Outcome 3

Students will be able to model real world situations with appropriate mathematical notation and interpret solutions.

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Course level; Direct - Exam

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**Recommendations:** The success rates outlined in this report are still lower than desired. It is important for teachers to emphasize mastery and review throughout the semester for all topics, including application problems.

Teachers also need to stress the importance of student's working outside of class to be successful.

This information will be shared with all teachers of math N48.

### Overall Recommendations

*No text specified*

## Plans of Action

### Actions

#### MATH N48 Pre-Algebra/Algebra Basics Outcome Set

##### Outcome

###### Outcome 2

Students will be able to perform algebraic operations on polynomials, solve basic linear equations and make connections between solutions to linear equations with two variables and Cartesian graphs.

###### ▼ Action: Math N48 SLO 2

###### **This Action is associated with the following Findings**

No supporting Findings have been linked to this Action.

**Details of Plan of Action:** This information will be shared with all teachers of math N48.

Teachers will be encouraged to emphasize mastery and review throughout the semester for all topics, including application problems.

Teachers also need to stress the importance of student's working outside of class to be successful.

**Plan of Action Timeline:** We will reassess this SLO in Fall of 2016.

**Who is responsible for carrying out the Plan of Action?:** The Math N48 coordinator of record for 2016-2017 will be responsible for the assessment.

**How will you determine if the Plan of Action has been effective?:** This Plan of Action is considered successful if the overall success rate improves by 5 percentage points or more.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:**

###### Outcome 3

Students will be able to model real world situations with appropriate mathematical notation and interpret solutions.

*No actions specified*

## Status Reports

### Action Statuses

#### MATH N48 Pre-Algebra/Algebra Basics Outcome Set

##### Outcome

###### Outcome 2

Students will be able to perform algebraic operations on polynomials, solve basic linear equations and make connections between

###### ▼ Action: Math N48 SLO 2

**Details of Plan of Action:** This information will be shared with all teachers of math N48.

Teachers will be encouraged to emphasize mastery and review throughout the semester for all topics, including application problems.

solutions to linear equations with two variables and Cartesian graphs.

Teachers also need to stress the importance of student's working outside of class to be successful.

**Plan of Action Timeline:** We will reassess this SLO in Fall of 2016.

**Who is responsible for carrying out the Plan of Action?:** The Math N48 coordinator of record for 2016-2017 will be responsible for the assessment.

**How will you determine if the Plan of Action has been effective?:** This Plan of Action is considered successful if the overall success rate improves by 5 percentage points or more.

**Additional Resources Required (if any):**

**Budget request amount:** \$0.00

**Priority:**

**Status** for Math N48 SLO 2

*No Status Added*

**Outcome 3**

*No actions specified*

Students will be able to model real world situations with appropriate mathematical notation and interpret solutions.

**Status Summary**

*No text specified*

**Summary of Next Steps**

*No text specified*

## 2012-2013 Assessment Cycle

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 **Measurements**

 **Findings**

 **Plans of Action**

 **Status Reports**