Student Learning Outcome Assessment Form 3

**Department:** Math

**Subject:** MATH

**Course:** MATH101

**Course:** BASIC - MATHEMATICS

### Student Learning Outcome:

Students will apply divisibility tests and prime factorization to find the greatest common factor (GCF) and least common multiple (LCM) of 24 and 40

### Reflection on Assessment Results

**What were the most important findings from the data?**

Even most students who know how to factor cannot find the GCF or LCM

**What changes can be made to address these implications?**

Use an application of factoring the students know what its used for. The best is simplifying fractions.

**What resources are needed to address these changes?**

None

**For the next time this assessment is performed, what changes need to be made?**

None, but I would prefer to see simplifying fractions instead of GCF or LCM.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**

Not listed

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### Student Learning Outcome:

Students will apply divisibility tests and prime factorization to find the greatest common factor (GCF) and least common multiple (LCM) of 24 and 40

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**What changes can be made to address these implications?**

Use an application of factoring the students know what its used for. The best is simplifying fractions.

**What resources are needed to address these changes?**

None

**For the next time this assessment is performed, what changes need to be made?**

None, but I would prefer to see simplifying fractions instead of GCF or LCM.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**

Not listed

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**What changes can be made to address these implications?**

Use an application of factoring the students know what its used for. The best is simplifying fractions.

**What resources are needed to address these changes?**

None

**For the next time this assessment is performed, what changes need to be made?**

None, but I would prefer to see simplifying fractions instead of GCF or LCM.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**

Not listed

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Students will apply divisibility tests and prime factorization to find the greatest common factor (GCF) and least common multiple (LCM) of 24 and 40.

**Reflection on Assessment Results**

**What were the most important findings from the data?**
A few students use prime factors more than needed. A few do not recognize 4 is composite; some students still confuse GCF with LCM.

**What changes can be made to address these implications?**
Practice and repetition has not been able to rectify such learning deficiencies in these students.

**What resources are needed to address these changes?**
"Alex" program-self-instructional for remediation.

**For the next time this assessment is performed, what changes need to be made?**
No change needed.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
Not listed.
**Student Learning Outcome:**

Situation- An applied problem is given, students are asked to analyze the problem and use basic mathematical operations to answer the question asked in the problem; Behavioral Objective - Students will recognize the key words for each operation given in the problem to translate sentences of the problem to mathematical operations; Performance Standards - Students will follow order of operations properly, and calculate correctly; Teaching objective: In Math club there are 28 students. 3/4 of these students are going to movie together. If admission to the movie costs $8 per ticket what is the total cost of their tickets.

**Reflection on Assessment Results**

What were the most important findings from the data?
Student prefer a non word problem!

What changes can be made to address these implications?
This s great

What resources are needed to address these changes?
0 (zero)

For the next time this assessment is performed, what changes need to be made?
Can we have students to do this online in a limited time?

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
0 (zero)

**Student Learning Outcome:**

Situation- An applied problem is given, students are asked to analyze the problem and use basic mathematical operations to answer the question asked in the problem; Behavioral Objective - Students will recognize the key words for each operation given in the problem to translate sentences of the problem to mathematical operations; Performance Standards - Students will follow order of operations properly, and calculate correctly; Teaching objective: In Math club there are 28 students. 3/4 of these students are going to movie together. If admission to the movie costs $8 per ticket what is the total cost of their tickets.

**Reflection on Assessment Results**

What were the most important findings from the data?
More weight either excellent or unsatisfactory; Excellent (44%), Satisfactory (16%), Unsatisfactory (40%)

What changes can be made to address these implications?
Many students do not understand basic of basic = 40%; so may increase tutoring system for those students

What resources are needed to address these changes?
44% (excellent) answer shows usage of %; 3/4 = 75%, 75% x 28 x 8 - 128 (Chap-6)

For the next time this assessment is performed, what changes need to be made?
It will be better result if I gave this 3/4 x 28 x 8 = 128 right after chapter 4 (fraction)

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
Not given
Reflection on Assessment Results

What were the most important findings from the data?
The most important finding from the data is that students didn't know what "of" meant in the context of the problem and that 3/4 is equivalent to 0.75 or 75%.

What changes can be made to address these implications?
Instructor can implement more real life application problems to their lecture to get students familiar with some of the mathematical key terms. There should also be a lesson that focuses on what word problems are asking base on the words that are used.

What resources are needed to address these changes?
There are no resources needed. Instructors just need to change around their curriculum to fit this new lesson in.

For the next time this assessment is performed, what changes need to be made?
The question should ask students to write in a complete sentence to get a better understanding of how much they understand the question.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
Not listed
Situation- An applied problem is given, students are asked to analyze the problem and use basic mathematical operations to answer the question asked in the problem; Behavioral Objective - Students will recognize the key words for each operation given in the problem to translate sentences of the problem to mathematical operations; Performance Standards - Students will follow order of operations properly, and calculate correctly; Teaching objective: In Math club there are 28 students. 3/4 of these students are going to movie together. If admission to the movie costs $8 per ticket what is the total cost of their tickets.

**Reflection on Assessment Results**

**What were the most important findings from the data?**
Most of "unsatisfactory" students do not try to solve. There is no work (nothing) at all.

**What changes can be made to address these implications?**
Need to teach more "word" problem using factional operation

**What resources are needed to address these changes?**
not given

**For the next time this assessment is performed, what changes need to be made?**
Need to teach more "word" problem using factional operation

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
Not listed

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**Student Learning Outcome:**

Situation- An applied problem is given, students are asked to analyze the problem and use basic mathematical operations to answer the question asked in the problem; Behavioral Objective - Students will recognize the key words for each operation given in the problem to translate sentences of the problem to mathematical operations; Performance Standards - Students will follow order of operations properly, and calculate correctly; Teaching objective: In Math club there are 28 students. 3/4 of these students are going to movie together. If admission to the movie costs $8 per ticket what is the total cost of their tickets.

**Reflection on Assessment Results**

**What were the most important findings from the data?**
Most students solved the problem correctly. Only a few still make mistakes when they divided the common factors between the numerator and the denominator. Older returning students leading the team study outside classroom improves the success rate. The students were not prepared. The problem was given as a pop quiz.

**What changes can be made to address these implications?**
20% students need more practice in multiplication or division. It has been several weeks since the students worked on application problems with fractions. When I gave the pop quiz, about half the students forgot about solving application problems with fractions. If I gave the pop quiz right after the students learned fractions, the results might have been better.

**What resources are needed to address these changes?**
More homework problems in division and multiplication, or send them to basic skilling classes. If the deadline for submitting SLO results changed to a sooner time, every instructor will need to be notified at least three weeks before the deadline.
For the next time this assessment is performed, what changes need to be made?
This SLO ties into the Program level SLO for Certificate: Apply concepts of positive rational numbers to solve real world problems, in particular, compare ratios, proportions, and percents.
This SLO also ties into SLO Cor£ Competency #2: Students will us

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
Meet the prerequisite of the next level math courses

Student Learning Outcome:

Student Learning Outcome:

Reflection on Assessment Results

What were the most important findings from the data?
Ability to analyze the problem and translate it to mathematical operations

What changes can be made to address these implications?
None

What resources are needed to address these changes?
None

For the next time this assessment is performed, what changes need to be made?
1. Target more operations; 2. Do it in the final exam; students can be prepared

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
Not listed

Student Learning Outcome:

Reflection on Assessment Results

What were the most important findings from the data?

What changes can be made to address these implications?

Student Learning Outcome:
Situation- An applied problem is given, students are asked to analyze the problem and use basic mathematical operations to answer the question asked in the problem; Behavioral Objective - Students will recognize the key words for each operation given in the problem to translate sentences of the problem to mathematical operations; Performance Standards - Students will follow order of operations properly, and calculate correctly; Teaching objective: In Math club there are 28 students. 3/4 of these students are going to movie together. If admission to the movie costs $8 per ticket what is the total cost of their tickets.

**Reflection on Assessment Results**

**What were the most important findings from the data?**
Some students divided 28 by three-fourths instead of multiplying

**What changes can be made to address these implications?**
Students need more instructions on application and critical thinking problems

**What resources are needed to address these changes?**
Need to set up a vocabulary of words bank to help student recognize what operations need to be used in an application exercises.

**For the next time this assessment is performed, what changes need to be made?**
None that I can think of right this minute

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
Not listed

**Student Learning Outcome:**

Situation- An applied problem is given, students are asked to analyze the problem and use basic mathematical operations to answer the question asked in the problem; Behavioral Objective - Students will recognize the key words for each operation given in the problem to translate sentences of the problem to mathematical operations; Performance Standards - Students will follow order of operations properly, and calculate correctly; Teaching objective: In Math club there are 28 students. 3/4 of these students are going to movie together. If admission to the movie costs $8 per ticket what is the total cost of their tickets.

**Reflection on Assessment Results**

**What were the most important findings from the data?**
About 75% students did excellent and satisfactory answer

**What changes can be made to address these implications?**
Not listed

**What resources are needed to address these changes?**
Not listed

**For the next time this assessment is performed, what changes need to be made?**
Need to give student more word problems using factional operation

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
Not listed
Student Learning Outcome Assessment Form 3

Course: MATH112
Prealgebra

Student Learning Outcome:

Solve $2(x+1) + 3 = -5$ for $x$.

Reflection on Assessment Results

What were the most important findings from the data?
The students who did not receive any credit for solving the distributive law using the multiplication over addition

What changes can be made to address these implications?
More practice with problems involving the distributive law of multiplication of addition and the distributive law of multiplication over subtraction.

What resources are needed to address these changes?
The use of computers that deal with problems involving the distributive law of multiplication over addition.

For the next time this assessment is performed, what changes need to be made?
It should be given earlier in the semester

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
It performs operations on real numbers and basic algebraic expressions without the use of a calculator and it applies and follows the mathematical principles and operations to solve linear equations.

Student Learning Outcome:

Solve $2(x+1) + 3 = -5$ for $x$.

Reflection on Assessment Results

What were the most important findings from the data?
More than 1/3 of students had a difficulty in operation of signed numbers

What changes can be made to address these implications?
Spend more time in teaching Chapter two (on operations of signed numbers.)

What resources are needed to address these changes?
Assign more homework problems in this area, Operations of signed numbers.

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
Competency is required for study all areas of Algebra.

Student Learning Outcome:

Solve $2(x+1) + 3 = -5$ for $x$.

Reflection on Assessment Results

What were the most important findings from the data?
25% of students still are not sure about operation with signed numbers.

What changes can be made to address these implications?
Practice more chapter 2 - add, subtract, multiply, divide with signed numbers.
What resources are needed to address these changes?
More practice problems in homework assignments.

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

Student Learning Outcome:

Reflection on Assessment Results

What were the most important findings from the data?
24% of students still have difficulty in operations of signed numbers.

What changes can be made to address these implications?
Make students spend more time practicing these skills.

What resources are needed to address these changes?
Assign more homework problems in this topic.

For the next time this assessment is performed, what changes need to be made?
None

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
These skills are important in algebra.

Student Learning Outcome:

Solve - 2(x+1) +3= -5 for x.

Reflection on Assessment Results

What were the most important findings from the data?
None listed

What changes can be made to address these implications?
NONE

What resources are needed to address these changes?
NONE

For the next time this assessment is performed, what changes need to be made?
NONE

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
NONE

Student Learning Outcome:

Solve - 2(x+1) +3= -5 for x.

Reflection on Assessment Results

What were the most important findings from the data?
Most students seem to have a clear understanding of the problem. Among students who did not do well are those who did not attempt to solve the problem.
What changes can be made to address these implications?
The only change that I would make is to do more practice problems on this topic.

What resources are needed to address these changes?
No additional resources are needed.

For the next time this assessment is performed, what changes need to be made?
More practice on this kind of problems.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
This SLO addresses the following Core Competency SLO’s: Technical Competency, Critical Thinking and Communication.

Student Learning Outcome:
Solve \(-2(x+1) +3= -5\) for x.

Reflection on Assessment Results
What were the most important findings from the data?
20% of students still have problems dealing with signed numbers in operations, but they learned the distributive property well.

What changes can be made to address these implications?
More homework practice to improve their computational skill

What resources are needed to address these changes?
none

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
Meet the prerequisite of the next level math courses.

Student Learning Outcome:
Students will apply and follow the mathematical principles and operations correctly to solve linear equations.
Solve \(-2(x+1)+3=-5\) for x.

Reflection on Assessment Results
What were the most important findings from the data?
Suitable question for Math 112, thanx

What changes can be made to address these implications?
This is great!

What resources are needed to address these changes?
0 (zero)

For the next time this assessment is performed, what changes need to be made?
If we could have them to do this online…?

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
0 (zero)

Student Learning Outcome:
Solve \(-2(x+1) +3= -5\) for x.
Reflection on Assessment Results

What were the most important findings from the data?
None listed

What changes can be made to address these implications?
one

What resources are needed to address these changes?
NONE

For the next time this assessment is performed, what changes need to be made?
NONE

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none
Student Learning Outcome:

1. The sum of 3 consecutive odd numbers is 69. What are these three numbers? 2. A regulation racquetball court has perimeter of 116 ft. The length of seven feet less than four times the width. Find the length and the width of the court.

Reflection on Assessment Results

What were the most important findings from the data?
Students know how to select the correct variable for the unknown.

What changes can be made to address these implications?
Emphasize on how to translate the word problem into a mathematical equation.

What resources are needed to address these changes?
none

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

Student Learning Outcome:

1. The sum of 3 consecutive odd numbers is 69. What are these three numbers? 2. A regulation racquetball court has perimeter of 116 ft. The length of seven feet less than four times the width. Find the length and the width of the court.

Reflection on Assessment Results

What were the most important findings from the data?
for problem #1, students had problems distinguishing consecutive integer problems with consecutive odd integer problems. For problem #2, students set up the equation incorrectly. They mixed up the order of the subtraction. Many students did not identify the widths or length or forgot to put in the units.

What changes can be made to address these implications?
Emphasize the importance of units and connecting answers to the problem. See if the answer makes sense in the problem.

What resources are needed to address these changes?
Math tutoring lab.

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none
**Student Learning Outcome Assessment Form 3**

**What were the most important findings from the data?**
Students do better with one equation with one unknown than with two equations with two unknowns.

**What changes can be made to address these implications?**
More time should be devoted to solving equations of two variables with two unknowns.

**What resources are needed to address these changes?**
Students should have access to computers having access to sets of problems that involve with the setup of two equations with two unknowns.

**For the next time this assessment is performed, what changes need to be made?**
Students need to be informed about these problems earlier in the semester so that they can have more time to prepare for them.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
This SLO ties into program level SLO's in that it performs operations on real numbers and algebraic expressions and solve systems of linear equations in two variables.

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**Student Learning Outcome:**

1. The sum of 3 consecutive odd numbers is 69. What are these three numbers?
2. A regulation racquetball court has perimeter of 116 ft. The length of seven feet less than four times the width. Find the length and the width of the court.

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**Reflection on Assessment Results**

**What were the most important findings from the data?**
Some students in the odd integer problem set up the linear equation as if the problem was a consecutive integer problem. Some students mixed the order of the subtraction when setting up the equation for the length. Many students did not clearly identify the length or width or did not put the units for the perimeter problem. Most students do better with solving one equation with one unknown than with two equations with two unknowns.

**What changes can be made to address these implications?**
There should be more emphasis of connecting the answers to what is being asked in the application problem. Students should pay more attention to the answers if they make sense in the problems. Some instructors should devote more time to solving a system of equations with two equations and two variables. Translating the word problem into a mathematical equation should be emphasized.

**What resources are needed to address these changes?**
A math tutoring center run by the Math Department is needed and tutors trained by the Math Department. Easy to use math software is needed, so students can practice solving systems of equations and application problems.

**For the next time this assessment is performed, what changes need to be made?**
If the students were informed earlier in the semester about these problems, they would have more time to prepare for them.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
These SLOs tie into the Program Level SLOs for AA: Solve equations and apply them to real world problems. These SLOs tie into the following Core Competency SLO: Students will use critical thinking skills to gather, identify, analyze, synthesize information, and evaluate problems and solutions.
Student Learning Outcome:

Students will perform factoring on polynomial expressions: 1) $6x^2-14x-12$ and  2) $4x^2-12x+9$

Reflection on Assessment Results

What were the most important findings from the data?
Half of students forget to start factoring with finding GCF. There are a few students for whom remediation is mandatory and necessary. It maybe hopeless for these students for several reasons: little or no homework submitted, poor attendance, missed midterms.

What changes can be made to address these implications?
Lab component to a math course should be implemented. Math department should train math tutors.

What resources are needed to address these changes?
Budget for math computer lab staff and tutors should be allocated.

For the next time this assessment is performed, what changes need to be made?
For better results, students should be required to have prerequisites taken no more than one semester prior to the current math course.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
This SLO is an agreement with Program level SLOs and Core Competency SLOs.
Student Learning Outcome Assessment Form 3

For the next time this assessment is performed, what changes need to be made?
For better results, students should be required to have prerequisites taken no more than one semester prior to the current math course.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

Student Learning Outcome:

Students will perform factoring on polynomial expressions: 1) 6x^2-14x-12 and 2) 4x^2-12x+9

Reflection on Assessment Results

What were the most important findings from the data?
75% mastering 14 of 19 students demonstrated success of chosen SLO

What changes can be made to address these implications?
See page 2

What resources are needed to address these changes?
See pg 2

For the next time this assessment is performed, what changes need to be made?
See pg 2

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
#2 of four math 114 SLOs
Student Learning Outcome Assessment Form 3

Course: MATH115

Student Learning Outcome:
Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results
What were the most important findings from the data?
NONE

What changes can be made to address these implications?
NONE

What resources are needed to address these changes?
NONE

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

Student Learning Outcome:
Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results
What were the most important findings from the data?
Students who are passing the course are doing reasonable.

What changes can be made to address these implications?
See 3c. Math Lab hours would be good.

What resources are needed to address these changes?
math lab (tutor) hours late and/or on weekends) since many of our students work

For the next time this assessment is performed, what changes need to be made?
The SLO is good for assessing one of the most important objectives of math 115

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

Student Learning Outcome:
Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results
What were the most important findings from the data?
Students know how to choose correct value for x and y in the formula.

What changes can be made to address these implications?
Emphasize the free choice of any of the two given points for x1 and y1.

What resources are needed to address these changes?
NONE

For the next time this assessment is performed, what changes need to be made?
none
Student Learning Outcome Assessment Form 3

Student Learning Outcome:

Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results

What were the most important findings from the data?
Some students were not sure what the sign of the slope should be. As a result, they couldn't get the right answer on the y-intercept. We have covered slope a long time ago, so they may have forgotten the principles for slopes and finding linear equations.

What changes can be made to address these implications?
Need to test SLO during the week that it was covered or maybe on the final exam.

What resources are needed to address these changes?
none

For the next time this assessment is performed, what changes need to be made?
Need to be given during the appropriate time that the principle was taught.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

Student Learning Outcome:

Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results

What were the most important findings from the data?
Working with fractions, either when they distributed with a fraction or combining a fraction with a whole number as in the last step.

What changes can be made to address these implications?
I need to have many more problems with fractions so students know when to cancel and when to get a common denominator.

What resources are needed to address these changes?
Method of instruction: Have more drill with fractions.

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

Student Learning Outcome:

Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results

What were the most important findings from the data?
all mistakes come from deficiency in fraction skills

What changes can be made to address these implications?
a student should not be passed 105 course without the ability to operate with fractions and decimals.
Student Learning Outcome Assessment Form 3

What resources are needed to address these changes?
We should train our tutors (math faculty)

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

**Student Learning Outcome:**

| Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form. |

**Reflection on Assessment Results**

What were the most important findings from the data?
none

What changes can be made to address these implications?
none

What resources are needed to address these changes?
none

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

**Student Learning Outcome:**

| Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form. |

**Reflection on Assessment Results**

What were the most important findings from the data?
none

What changes can be made to address these implications?
none

What resources are needed to address these changes?
none

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
none

**Student Learning Outcome:**

| Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form. |

**Reflection on Assessment Results**

What were the most important findings from the data?
none

What changes can be made to address these implications?
none
Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results

What were the most important findings from the data?
Students had this topic more than a month ago at the time of this quiz. Most of the students knew that they need to have slope for writing an equation for the line. But some forgot how to find y-intercept when slope and one point of the line is known and some did not go beyond the slope. Maybe they forgot because that was a while ago and they were in middle of the other unrelated topics.

What changes can be made to address these implications?
One solution that I am going to make is, instead of giving chapter test that cover the current chapter, upon finishing each chapter I am going to a test that covers all the previous chapter in order to keep a;; material fresh in students' minds.

What resources are needed to address these changes?
none

For the next time this assessment is performed, what changes need to be made?
none

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
This is part if student Competency Learning Outcome.

Student Learning Outcome:

Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

Reflection on Assessment Results

What were the most important findings from the data?
83% of the class got the idea how to compute the slope and use formula to find an equation of the line. But there are still 23% of the class did not understand at all.

What changes can be made to address these implications?
Encourage students go to campus tutoring center to make up whtever they've missed when they are absent.

What resources are needed to address these changes?
Tutoring programs on campus, or online tutoring offered by private companies.

For the next time this assessment is performed, what changes need to be made?
Give more homework on this topic and encourage students to get help from campus tutoring center

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
It is a prerequisite course for math 125 and plane geometry class. It is an important skill for engineering major students.
Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

**Reflection on Assessment Results**

**What were the most important findings from the data?**
Students would stop after finding the slope. Some students did not know how to plug in the correct numbers in the slope formula.

**What changes can be made to address these implications?**
Emphasize more on reading instructions.

**What resources are needed to address these changes?**
Math tutoring lab.

**For the next time this assessment is performed, what changes need to be made?**
Reading instructions

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
none

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**Student Learning Outcome:**

Given two points (2,5) and (-3, -7), write an equation of a straight line in slope-intercept form.

**Reflection on Assessment Results**

**What were the most important findings from the data?**
Many of the mistakes came from a deficiency in fractional skills. The students had problems working with fractions, either when they distributed with a fraction or combining a fraction with a whole number as in the last step of the SLO problem. Another mistake is the students stopped solving the problem after they find the slope. The students need to pay close attention to the instruction. They were asked to find an equation of the line, not just the slope. A third mistake is some students were not aware of the correct sign of the slope or they plugged in the wrong numbers in the slope formula. Some instructors assessed the SLO long after covering the topic, so many of the students have forgotten the principles for slopes and finding linear equations.

**What changes can be made to address these implications?**
A student without the ability to operate with fractions or decimals should not pass Math 105 or be assessed into Math 115. There should be more problems with fractions; so the students know when to cancel and when to get a common denominator. There should be more emphasis is reading the instructions and more encouragement for students to go to the tutoring center, especially if they were absent during class. The SLO should be assessed during the week that topic was covered or on the final exam. The tutoring lab should have late hours or weekend hours for students who work during the day and take classes at night or weekends. One instructor will include problems from previous chapters and problems from the current chapter in each chapter test, so all the material will be fresh in the students' minds.

**What resources are needed to address these changes?**
A math tutoring center run by the Math Department is needed and tutors trained by the Math Department. Easy to use math software is needed, so students can practice solving systems of equations and application problems.

**For the next time this assessment is performed, what changes need to be made?**
There should be more drills with fractions. There should be more assignments on this topic, and more encouragement for students to get help from the tutoring center. The SLO should be given during the appropriate time that the principle was taught. The SL
How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
The SLO ties into the Program Level SLO for transfers: Graph and analyze functions. The SLO ties into the following Core Competency SLO: Students will use critical thinking skills to gather, identify, analyze, synthesize information, and evaluate problems and solutions.

Course: MATH121

Student Learning Outcome:

Apply the related theorems and postulates to find measures of parts of a given geometric figure.

Reflection on Assessment Results

What were the most important findings from the data?
There were three theorems that students needed for this problem. Majority of students had recognized what theorems. However, there were some students who could not analyze this problem correctly therefore, could not apply the right theorems.

What changes can be made to address these implications?
This course should be offered as a five unit course with added some missing topics. Students need more time to be able to see the mathematical logic behind the proofs in this course. The missing logic part of the course would allow students to analyze the geometry problems better and in fact it would help them later on in calculus.

What resources are needed to address these changes?
None since the five unit geometry is already in existence in the district.

For the next time this assessment is performed, what changes need to be made?
None.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
This is part of student Competency Learning Outcome.
Course: MATH125 Intermediate Algebra

**Student Learning Outcome:**

Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination:

6x - 7y = -27
4x - 2y = 6

**Reflection on Assessment Results**

What were the most important findings from the data?

More emphasis should be out on operations with signed numbers starting in math 112 and continue to math 125. Students should be made aware of the importance of checking their answers as this a very important skill in all aspects of society.

What changes can be made to address these implications?

More tutoring will help most students taking this class.

What resources are needed to address these changes?

During instruction, more emphasis should be placed on reviewing the rules of signed operations, more problems that involve more than two steps and finally more emphasis on the importance of checking one's work.

For the next time this assessment is performed, what changes need to be made?

This SLO addresses the following Core Competency SLO's: Critical Thinking, Technical Competency and Communication.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?

N/A

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**Student Learning Outcome:**

Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination:

6x - 7y = -27
4x - 2y = 6

**Reflection on Assessment Results**

What were the most important findings from the data?

Emphasizing more on the importance of checking and its consequences when a solution is not checked after solving some equations during lecture, discussion and review, writing instruction for a particular problem that a student need check their answer and allotting more points to this step when correcting their work can help to address the problem.

What changes can be made to address these implications?

Giving more than one problem, Using letter grade for the performance of SLO objectives.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?

n/a

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**Student Learning Outcome:**

Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination:

6x - 7y = -27
4x - 2y = 6

**Reflection on Assessment Results**

What were the most important findings from the data?

1. A break between math courses should be no more than 1 semester. 2. Exit knowledge of math courses should be even across sections - a necessity of common final.
What changes can be made to address these implications?
No additional resources are needed

What resources are needed to address these changes?
All of above may remain the same.

For the next time this assessment is performed, what changes need to be made?
Directly

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
Math and Matriculation Department consensus is critical for teaching improvement.

**Student Learning Outcome:**
Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination: $6x-7y=-27$  $4x-2y=6$

**Reflection on Assessment Results**

What were the most important findings from the data?
Students either have very poor skills in algebra or have taken the course a long time ago and have. Need to address recency issue

What changes can be made to address these implications?
need to make students who took the pre-reqs more than 1 year ago to retake the pre-reg class.

What resources are needed to address these changes?
Need to make the SLO a little bit difficult, like to have students solve a system of linear equation in three unknowns.

For the next time this assessment is performed, what changes need to be made?
na

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
na

**Student Learning Outcome:**
Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination: $6x-7y=-27$  $4x-2y=6$

**Reflection on Assessment Results**

What were the most important findings from the data?
More emphasis should be out on operations with signed numbers starting in math 112 and continue to math 125. Students should be made aware of the importance of checking their answers as this a very important skill in all aspects of society.

What changes can be made to address these implications?
More tutoring will help most students taking this class.

What resources are needed to address these changes?
During instruction, more emphasis should be placed on erviewing the rules of signed operations, more problems that involve more than two steps and finally more emphasis on the importance of checking one's work.

For the next time this assessment is performed, what changes need to be made?
This SLO addresses the following Core Competency SLO's: Critical Thinking, Technical Competency and Communication.
How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
N/A

Student Learning Outcome:
Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination: 6x-7y=-27 4x-2y=6

Reflection on Assessment Results

What were the most important findings from the data?
See attached

What changes can be made to address these implications?
More tutoring will help most students taking this class. No additional resources are needed. If students took their prerequisite more than a year ago, they should be made to retake the prerequisite class.

What resources are needed to address these changes?
During instruction, more emphasis should be placed on reviewing the rules of signed operations, more problems that involve more than two steps and finally more emphasis on the importance of checking one's work. All of above may remain the same. Giving more than one problem and using letter grade for performance of SLO objectives. Have students solve a system of 3 equations in 3 unknowns.

For the next time this assessment is performed, what changes need to be made?
This SLO addresses the following Core Competency SLO's: Critical Thinking, Technical Competency and Communication.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
N/A Math and Matriculation Department consensus is critical for teaching improvement.

Student Learning Outcome:
Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination: 6x-7y=-27 4x-2y=6

Reflection on Assessment Results

What were the most important findings from the data?
Emphasis should be made on how to make both coefficients of one variable to be the additive inverse if the inverse of one variable cannot be obtained by just multiplying one equation.

What changes can be made to address these implications?
NONE

What resources are needed to address these changes?
NONE

For the next time this assessment is performed, what changes need to be made?
O.K.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
N/A

Student Learning Outcome:
Students will solve a system of linear equations using graphical and algebraic methods. Solve the system of linear equations by elimination: 6x-7y=-27 4x-2y=6

Reflection on Assessment Results
What were the most important findings from the data?
Students need to study for the long term not just for the test.

What changes can be made to address these implications?
n/a

For the next time this assessment is performed, what changes need to be made?
This SLO addresses the following Core Competency SLO’s: Critical Thinking, Technical Competency and Communication.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
n/a
Student Learning Outcome:

A day bed is 73 in long. Assume that heights of men are normally distributed with a mean 69.0 in and standard deviation 2.8 in. Find the percentage of men with heights that exceed the length of a day bed.

Reflection on Assessment Results

What were the most important findings from the data?
Currently at LATTC, there is just one tutor for statistics. The situation should be changed as soon as possible.

What changes can be made to address these implications?
Budget should be allocated to staff Math computer lab and qualified tutors trained by math department.

What resources are needed to address these changes?
na

For the next time this assessment is performed, what changes need to be made?
na

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
na

Student Learning Outcome:

A day bed is 73 in long. Assume that heights of men are normally distributed with a mean 69.0 in and standard deviation 2.8 in. Find the percentage of men with heights that exceed the length of a day bed.

Reflection on Assessment Results

What were the most important findings from the data?
One instructor believes there are better statistic books available for this level of largely applied stats. She would highly recommend a different book. While no major changes are suggested, the following two points might help: More tutoring will help students. More explanation about SLO’s will increase the students’ understanding of SLOs. Budget should be allocated to staff Math computer lab and qualified tutors trained by math department.

What changes can be made to address these implications?
More resources should be put into training tutors. Budgeting should be addressed.

What resources are needed to address these changes?
More practice problems should be included in the homework assignments that cover a variety of situations with different wordings. SLO is fine and course specific.

For the next time this assessment is performed, what changes need to be made?
This SLO closely mirrors the critical thinking core competency component of LATTC. SLO shows competency in statistical tools and language.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
na
Student Learning Outcome Assessment Form 3

What were the most important findings from the data?
Currently at LATTC, there is just one tutor for statistics. The situation should be changes as soon as possible.

What changes can be made to address these implications?
Budget should be allocated to staff Math computer lab and qualified tutors trained by math department.

What resources are needed to address these changes?
na

For the next time this assessment is performed, what changes need to be made?
na

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
na

Student Learning Outcome:
A day bed is 73 in long. Assume that heights of men are normally distributed with a mean 69.0 in and standard deviation 2.8 in. Find the percentage of men with heights that exceed the length of a day bed

Reflection on Assessment Results

What were the most important findings from the data?
The statistics class should be more than 3 units. Meetings of the class should be more than once a week.

What changes can be made to address these implications?
Students should be able to get more feedback from instructor. Need to have meetings more than once a week.

What resources are needed to address these changes?
I do not suggest any changes to the assessment tools.

For the next time this assessment is performed, what changes need to be made?
na

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
na
Student Learning Outcome: A day bed is 73 in long. Assume that heights of men are normally distributed with a mean 69.0 in and standard deviation 2.8 in. Find the percentage of men with heights that exceed the length of a day bed.

Reflection on Assessment Results

What were the most important findings from the data?
While no major changes are suggested, the following two points might help. More tutoring will help some students. More explanation about SLO's will increase the students' understanding of SLO's.

What changes can be made to address these implications?
More resources should be put into training tutors. Budgeting should be addressed.

What resources are needed to address these changes?
More practice problems should be included in the homework assignments that cover a variety of situations with different wordings.

For the next time this assessment is performed, what changes need to be made?
This SLO closely mirrors the critical thinking core competency component of LATTC. SLO shows competency in statistical tools and language.

How does this SLO tie into Program level SLO’s or Core Competency SLO’s?
na
**Course:** MATH240

**Student Learning Outcome:**

Use the law of Sines and law of Cosines to solve vector applications

Problem: Forces of 37.8 and 53.7 lbs. act at a point in the plane. The angle between the forces is 68.5. Find the magnitude of the resultant force.

**Reflection on Assessment Results**

**What were the most important findings from the data?**

1. Students need to study for the long term not just for the test.
2. I need to give more quizzes on which law applies.

**What changes can be made to address these implications?**

na

**What resources are needed to address these changes?**

Give surprise quizzes on this type of material

**For the next time this assessment is performed, what changes need to be made?**

na

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**

na

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**Course:** MATH245

**Student Learning Outcome:**

Write and solve geometric equations for a parabola, ellipse and hyperbola.

Problem: Given $9x^2 - 16y^2 = 144$

**Reflection on Assessment Results**

**What were the most important findings from the data?**

Emphasize that the equations of the asymptotes are nothing other than finding the equations of lines given a point and slope.

**What changes can be made to address these implications?**

na

**What resources are needed to address these changes?**

SLO and rubric were OK. For change in method of instruction, see #3b above.

**For the next time this assessment is performed, what changes need to be made?**

na

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**

na
**Student Learning Outcome:**

Graph and Analyze exponential functions Sketch the graph of: $g(x) = 2x+3 -1$ by translating a basic graph. Show a horizontal asymptote and plot the pivot point. What's the Domain and Range? Is the function One-to-One? Explain

**Reflection on Assessment Results**

**What were the most important findings from the data?**
Encourage students to come to class

**What changes can be made to address these implications?**
Just need to call and keep up with absent students

**What resources are needed to address these changes?**
Need to test the SLO on a quiz during the time I teach the part of the SLO in a lecture

**For the next time this assessment is performed, what changes need to be made?**
na

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
See attached pages

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**Course:** MATH266

**Student Learning Outcome:**

Select and use a appropriate technique to correctly perform a specific integration. In $(2x=1) \, dx$

**Reflection on Assessment Results**

**What were the most important findings from the data?**
na

**What changes can be made to address these implications?**
na

**What resources are needed to address these changes?**
na

**For the next time this assessment is performed, what changes need to be made?**
This SLO addresses the following Core Competency SLO's: Critical Thinking, Technical Competency and Communication

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
na
**Student Learning Outcome:**

Students will correctly apply the dot product and cross product to find an equation of the plane passing through three given points. Find the equation of the plane passing through the points: (p1(1,1,1), P2 (2,4,3), P3 (-1,-2,1).

**Reflection on Assessment Results**

**What were the most important findings from the data?**
Emphasize on the students' quality of the prerequisite course study.

**What changes can be made to address these implications?**
More homework problems to do with the expansion of the determinant.

**What resources are needed to address these changes?**
More reviews and more homework problems in the expansion of the determinants.

**For the next time this assessment is performed, what changes need to be made?**
Engineering major students need these kind of skills. The students need it to learn advanced material when they transfer to universities.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
See attached pages

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**Student Learning Outcome:**

1. Prove or disprove if a set, together with addition and scalar multiplication defined, satisfies the ten axioms of a vector space. Determine whether the following set with the standard operations, is a vector space. If it is not, then determine the set of axioms that it fails: (xxx) is a real number

**Reflection on Assessment Results**

**What were the most important findings from the data?**
While no major changes are suggested, students should continue to be exposed to a reasonable amount of proofs in the calculus sequence as time allows.

**What changes can be made to address these implications?**
No new resources are needed at this point.

**What resources are needed to address these changes?**
This SLO assesses one of the most important concepts in linear algebra; namely, vector space. There are 10 axioms to be assessed and I think that the rubric to assess these 10 axioms has plenty of room for improvement.

**For the next time this assessment is performed, what changes need to be made?**
This SLO addresses the following Core Competency SLO's: Critical Thinking, Technical Competency and Communication.

**How does this SLO tie into Program level SLO’s or Core Competency SLO’s?**
See attached pages