

Corequisite Models Using OER: Reduce Cost and Increase Faculty Control

Low cost | Simple to Adopt | High academic ownership

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How do you define Co-requisite College Algebra?

- A. Accelerated:**
8 weeks of Intermediate Algebra (IA) then
8 weeks of College Algebra (CA)
- B. Condensed:**
1-3 units of review material from IA then
Full College Algebra Course
- C. Just in Time:**
Full College Algebra Course with some IA
review material at the beginning of each
module
- D. Concurrent (Paired) Courses:**
Concurrent enrollment in IA and CA
Same or different instructors
- E. Concurrent (Support) Course:**
Emporium style course for IA review
Scheduled class times or drop in
Same or different instructors
- F. Others?**

Coreq Models – Variations as categorized by Pathways Subgroup in Ohio (2018)

2. 101 Plus Model

Institutions with this model design the developmental education support largely as an extension of the “101” gateway course. This may also be called the extended instructional time model. The additional support may be delivered just-in-time or front-loaded within the gateway course. It may also vary in format or the inclusion of students who were not identified as needing developmental education supports.

101 Plus Variations	Just-in-Time Developmental	Front-loaded Instruction	Supplementary Recitation or Lab	Just-in-Time for All
Concurrent or Consecutive within Term	Concurrent	Consecutive	Concurrent	Concurrent
Course Structure	Single Course	Single Course	Single Course	Single Course
Amount of time/credit	3-5 total credits	3-5 total credits	3-4 total credits	3-5 total credits

Some challenges facing community college math faculty

- Students placed in developmental math often do not complete the sequence
- Student knowledge of prerequisite material – varying levels
- Some students can't or won't buy the textbook/courseware
- Changing learning materials *can* be time consuming

Quick Course Set-up in Lumen OHM

1 Choose a customizable template course

2 Review & adjust content to align with your course

3 Adjust due dates and settings to suit your course

4 Get help at any point from Lumen support

Template Courses for All Levels of Math

The screenshot shows the Lumen Learning Course Browser interface. The main header is "Course Browser" with a blue background. Below it, there are filter buttons: "Filter results:", "Level" (selected), "Primary textbook", "Modality", and "Contents". A dropdown menu is open under "Level", listing various math levels with checkboxes. The background shows a list of course cards, with one card partially visible showing "Arithme" and "Template Course".

Course Browser

Filter results: Level Primary textbook Modality Contents

Show courses that contain any of:

- Arithmetic
- Prealgebra
- Beginning Algebra
- Intermediate Algebra
- Non-STEM Algebra / Math Literacy
- College Algebra
- Trigonometry
- Precalculus
- Calculus
- Math for Liberal Arts / Quantitative Reasoning
- Statistics
- Linear Algebra
- Differential Equations
- Chemistry
- Accounting
- Physics
- Other

Arithme Template Course

Contributed by Scottsdale Community College

Level Arithmetic

Primary textbook Basic Arithmetic Student Workbook, Scottsdale CC

Modality Generic, nonspecific

Contents Formative Assessments (homework, ~1 per week or chapter)
Summative Assessments (online quizzes or exams)
Video lists or video lessons

The screenshot shows the Lumen LMS interface. At the top left is the Lumen logo. On the top right, there are links for "My Institution" and "Courses". Below the header, the navigation path is "OHM College Algebra Demo > ... > Module 4: Equations and Inequalities > Section 4.1: Homework - Models and Applications". The main content area is titled "Section 4.1: Homework - Models and Applications" with a score of "0/12" and "0/12 answered". A dropdown menu shows "Question 2" with navigation arrows. The question text is: "If two less than nine times a number is thirty-four. Define the unknown number with the variable n and then solve. Write a linear equation to represent this scenario?" followed by an input field. Below this is another input field for "What is the number?". A "Question Help" link with a video icon is present. A blue "Submit Question" button is at the bottom left. A math input toolbar is open, showing tabs for "Basic", "Funcs", and "Trig". The toolbar includes buttons for fractions, powers, roots, and other mathematical symbols, along with navigation arrows and a "Clear" button.

Seamless LMS Integration

Easy set-up

Single sign-on

Automatic grade return

Supported systems:
Blackboard, Canvas,
D2L Brightspace,
Moodle

OHM Pricing & Payment Options

Payment Model	Standard pricing per student using OHM
Course Fee (collected by institution, per enrollment)	\$25
Direct-to-Lumen Payment (collected by Lumen, per enrollment)	\$25
Bookstore Activation Code (per enrollment)	\$25*
Follett includED (streamlines course fee)	\$25
Annualized Fee (per institution, pre-paid)	Negotiated based on current and projected usage

**Campus stores may add additional markup; this is left to discretion of institutions*

College Algebra with Corequisite Support

OHM College Algebra Demo




- Home Page
- Information
- Content
- Discussions
- Groups
- Tools
- Help
- DEMO NA College Algebra Corequisite - Lumen Learning (w student data)
- College Algebra (Lumen Learning)


Course Management


- Control Panel
- Content Collection
- Course Tools
- Evaluation
- Grade Center
- Users and Groups
- Customization
- Packages and Utilities
- Help




Module 2: Polynomial and Rational Expressions

Build Content ▾ Assessments ▾ Tools ▾ Partner Content ▾

-  **Pretest: Module 2**
-  **Why It Matters: Polynomial and Rational Expressions**
-  **Review Readiness Check: Module 2**

Take this preview assessment to test your readiness to begin Module 2: Polynomial and Rational Expressions. If you score 100%, you're ready to dig in to the module to see if you have obtained or refreshed your skills for success.
-  **Review Topics for Success Text: Module 2**

This links to the first page of the Review section. Click NEXT at the bottom of each page to progress through the review content.
-  **Review for Success Post-Check: Module 2**

This assessment may be used as a homework assignment, self-check guided practice, or post-review quiz for the Review Topics for Success section.
-  **Section 2.1: Textbook - Polynomial Basics**
-  **Section 2.1: Homework - Polynomial Basics**
-  **Section 2.2: Textbook - Factoring Polynomials**

Interactive and Customizable Etext

The screenshot shows a web browser window with the URL <https://courses.lumenlearning.com/albanytech-collegealgebracorequisite/chapter/inverse-functions/>. The browser's address bar and tabs are visible at the top. The main content area is a light gray box with the following text and elements:

Let's take a look at the problem shown above...

$$f(x) = x^3 - 4$$
$$g(x) = \sqrt[3]{x+4}$$

We want to determine if the two functions are inverses of each other, so let's walk through each step.

What should be our first step in solving this Try It?

- Find $f(g(x))$ and $g(f(x))$
- Look for the same numerical values along with opposite operations.
- Find $f(g(x))$

At the bottom of the gray box, there is a progress indicator showing 1 / 5 and a "Reuse" button.

EXAMPLE: DETERMINING INVERSE RELATIONSHIPS FOR POWER FUNCTIONS

If $f(x) = x^3$ (the cube function) and $g(x) = \frac{1}{3}x$, is $g = f^{-1}$?

[Show Solution](#)

TRY IT

If $f(x) = (x-1)^3$ and $g(x) = \sqrt[3]{x} + 1$, is $g = f^{-1}$?



Desmos in OHM



Transformations

Learning about transformations with an interactive graph.

Steps



1 Introduction to Transformations

2 Vertical and Horizontal Shifts

3 Vertical and Horizontal Shrinks & Stretches

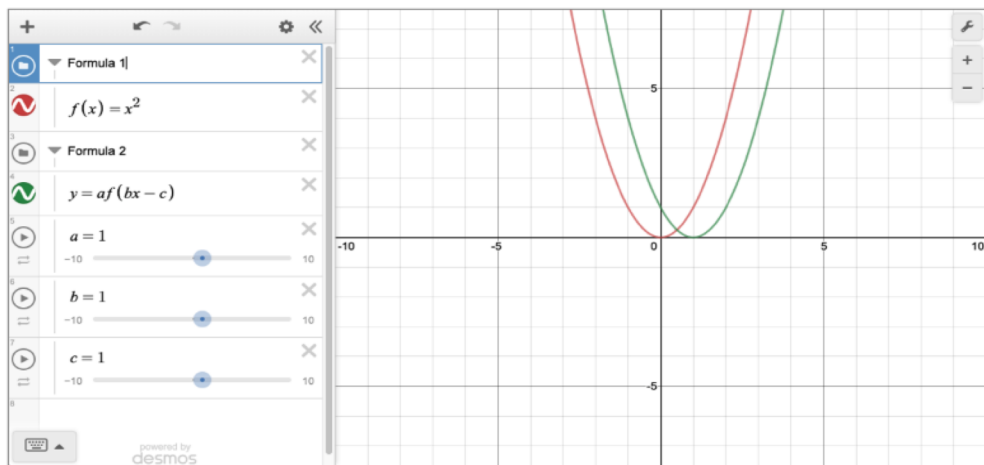
4 Reflections

Intro to Transformations

What are transformations?

Given a base graph like $y=f(x)$, if you add, subtract, multiply or divide by a constant, the shape of the graph changes predictably. The way these graphs change is described by a set of rules called *transformations*.

In this activity, we explore how transformations relate to the arithmetic we see in the formula.





Add Desmos Interactive

Title

Transformations

Start Date

01/20/2018



Summary

Learning about transformations with an interactive graph.

End Date

05/28/2019



In Libraries:

Transformations

Arithmetic

Algebra

Select Libraries

Steps

Add

Delete

1

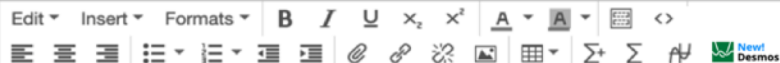
Intro to Transformations

2

Vertical and Horizontal Shifts

3

Vertical and Horizontal Shrinks & Stretches

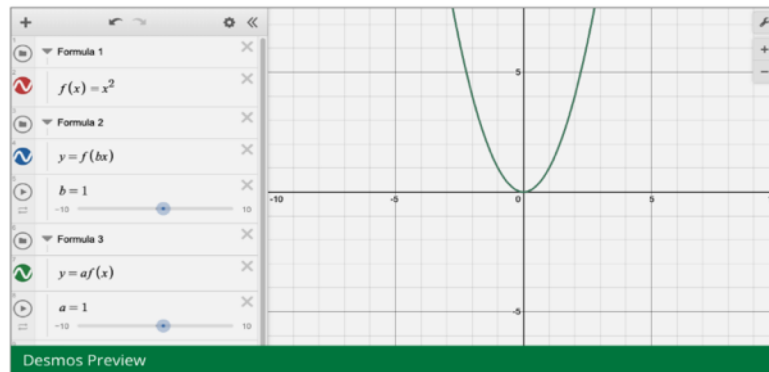


Vertical and Horizontal Shrinks & Stretches

What happens when we multiply by a non-negative constant?

Depending on whether the multiplication happens inside the function or outside the function, we see either shrinking or stretching horizontally or vertically, respectively.

Try playing with either the slider bars or animation to see if you can notice a pattern with how the graph is shifting.



[Home](#) > [Arithmetic](#) > Assessment

Final Review

Score: 0/55 0/55 answered

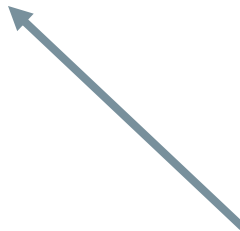
● Question 1 ▾



Subtract: $325 - 246$

Question Help: [Video](#) [Calculator](#)

[Submit Question](#)



[Home](#) > [Arithmetic](#) > Assessment

Final Review

Score: 0/55 0/55 answered

● Question 1

Subtract: $325 - 246$

Question Help: [Video](#) [Calculator](#)

[Submit Question](#)

main			abc	func	DEG	clear all			
a^2	a^b	$ a $	7	8	9	÷			
$\sqrt{\quad}$	$\sqrt[n]{\quad}$	π	4	5	6	×	%		
sin	cos	tan	1	2	3	-	$\frac{a}{b}$		
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[Home](#) > [Arithmetic](#) > Assessment

Final Review

Score: 0/55 0/55 answered

● Question 1

Subtract: $325 - 246$

Question Help: [Video](#) [Calculator](#)

[Submit Question](#)

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← → clear all ✕ ⚙️

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Some Institutions Currently Using Lumen OHM





More Questions?

Live Demo of an OHM Course

if time permits