

The Common Denominator

A Family Math Newsletter
Algebra 1 Unit 3: Exponential Functions

Unit at a Glance

In this unit, the students will be introduced to sequences, specifically arithmetic and geometric sequences. The students will relate arithmetic sequences to linear functions and geometric sequences to exponential functions. The graphs of exponential functions will be studied as well as strategies for solving simple exponential equations. The following topics will be studied:

Topic	Skills	Length
Topic A: Geometric Sequences and the Graphs of Exponential Functions	<ul style="list-style-type: none">Geometric Sequences and Exponential FunctionsExponential Equations and Models	18 (45-minute) periods 9 (90-minute) periods

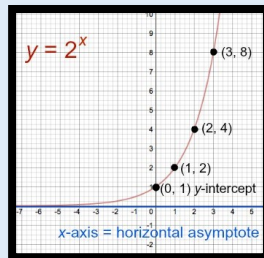
Exploring Mathematics

Real World Connections

Suppose you have just created a video and you share it with some of your friends. Then each of them shares it with the same number of their own friends. If this pattern continues, how many friends should you show your video to make it go viral within a few days?

Pay It Forward: In the movie Trevor, the young boy, launches a goodwill movement. He explains that he plans to do three good deeds for different people. If those three people also do three good deeds then Trevor will have started an exponential movement. If this pattern continues, how long will it take for 27 people to be impacted? 6561? [Pay It Forward Video](#)

Contagion: In this movie people are being infected by a deadly virus. The first two people infect two more people each who then infect two more people each and so on until an epidemic breaks out. [Contagion Video](#). check his math- would it really take 30 days to infect 1 billion people? How long would it take to spread across America (given our population is 325 million)?



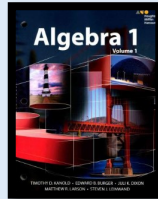
Resource Toolkit

HMH Algebra 1 Textbook, Interactive Student Edition, or Student Resources

Topic A

Unit 6: Exponential Relationships, Module 15: Geometric Sequences and Exponentials, Lessons 15.1-15.5

Unit 6: Exponential Relationships, Module 16: Exponential Equations and Models, Lessons 16.1-16.4



Homework Help

Topic A

Go to HMH Student Resources, Unit 6, Module 15:

Lesson 15.2: Constructing Geometric Sequences, Math on the Spot Video

Lesson 15.3: Constructing Exponential Functions, Success for English Learners

Lesson 15.4: Graphing Exponential Functions, Reteach

Go to HMH Student Resources, Unit 6, Module 16:

Lesson 16.1: Using Graphs and Properties to Solve Equations with Exponents, Reteach

Lesson 16.2: Modeling Growth and Decay, Practice and Problem Solving: D

Lesson 16.4: Comparing Linear and Exponential Models, Practice and Problem Solving: D

Khan Academy video: [Intro to Geometric Sequences](#)



“Education is the passport to the future, for tomorrow belongs to those who prepare for it today.”

– Malcolm X