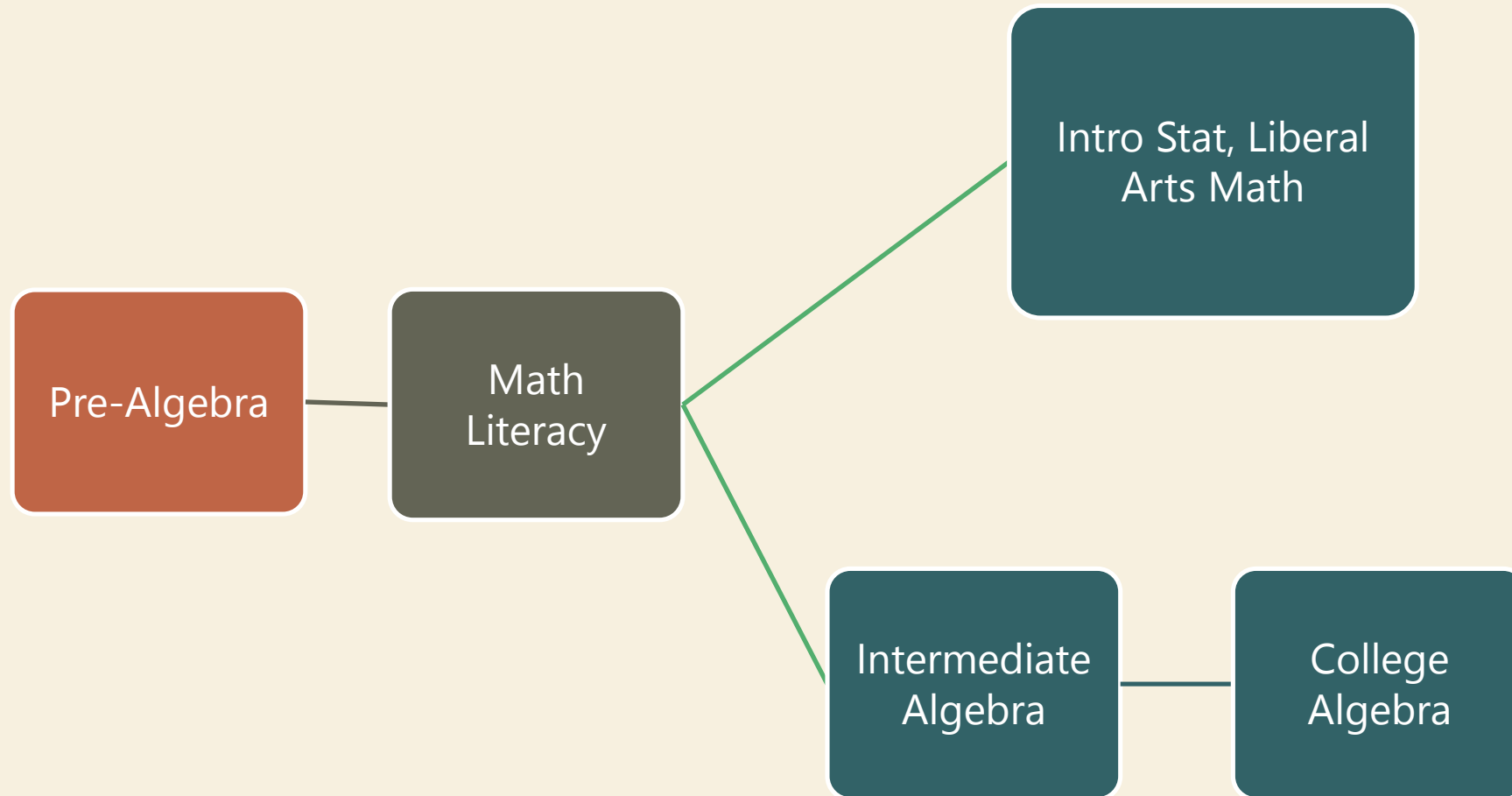


MATH LITERACY: ALL THE EXTRAS

OUR COURSE SEQUENCE



WHAT ARE THE “EXTRAS” IN MATH LITERACY?

- Technology
- Projects
- Writing assignments
- Emphasis on collaboration

SPREADSHEETS

- Pie Chart
- Calculating Grades
- Change and Relative Change for Linear and Exponential Growth
- Estimating Line of Best Fit
- Calculating Line of Best Fit and Residuals
- Exponential Decay of Caffeine

PROJECTS

- Car depreciation
- Student loans
- Road trip
- Food truck
- Linear/exponential growth (open-ended)

WRITING ASSIGNMENTS

- Reflections
- Math biography
- Self-assessment of meeting learning objectives

MATH LITERACY IN A CLASSROOM

- Challenges
 - Allowing for differences in instructor styles
 - Helping students adjust

Less lecture

More lecture

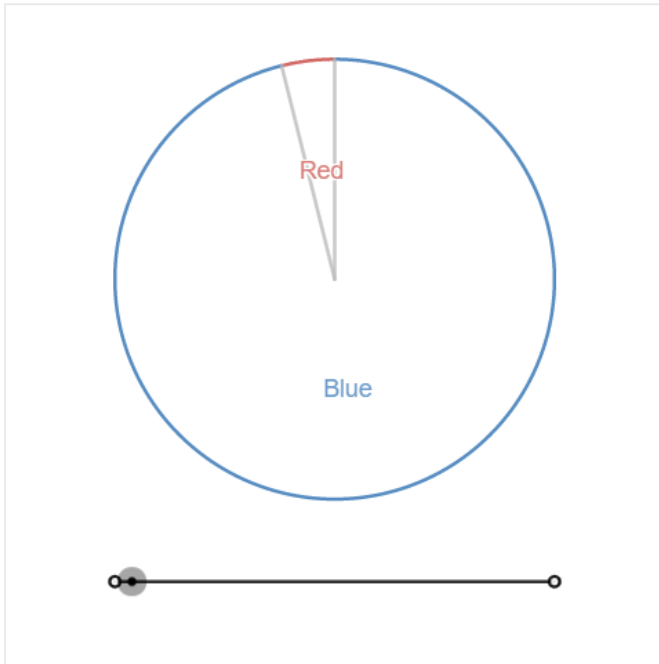


MATH LITERACY AS AN ONLINE COURSE

- Goal: Maintain critical thinking and collaboration while streamlining the experience to avoid busywork
- Strategies
 - Discussion boards
 - Online activities: Desmos, etc
 - Group projects with online collaboration tools (Office 365, Google Drive)

DESMOS - PROBABILITY

Create Your Own Spinner



Drag the movable point to create a spinner where:

Landing on RED is almost IMPOSSIBLE.
Landing on BLUE is almost CERTAIN.

Then press "Submit" and continue to the next screen.

Submit

36 Rounds



Here's the spinner you created on the previous screen.

You said that landing on RED is almost impossible, and landing on BLUE is almost certain.

Press "Spin" to play the game 36 times.

When you finish, continue to the next screen.

	Number of Spins
Landed on Red	1
Landed on Blue	35
Total	36

Spin

DESMOS – EQUATIONS OF LINES

Linear Marbleslides 2JSNHE

Snapshots Summary Teacher Student

Anonymize Pacing Pause 36 STUDENTS

1 Let's Ma... 2 Fix It #1 3 Fix It #2 4 Fix It #3 5 Predict #1 6 Verify #1 7 Predict #2 8 Verify #2 9 Fix It #4 10 Reflect

Screen 9 of 10

Fix It #4

Launch

1 Change two numbers in the row below to fix the Marbleslide. This time you'll need to change both the slope AND y-intercept.

2 $y = 0x + 4$

3

www.desmos.com
Marbleslides: Lines

powered by desmos

DESMOS – WRITING ALGEBRAIC EXPRESSIONS

Calculate how wide each space should be.

The lot is 41 feet wide.
The dividers are each 6 feet wide.

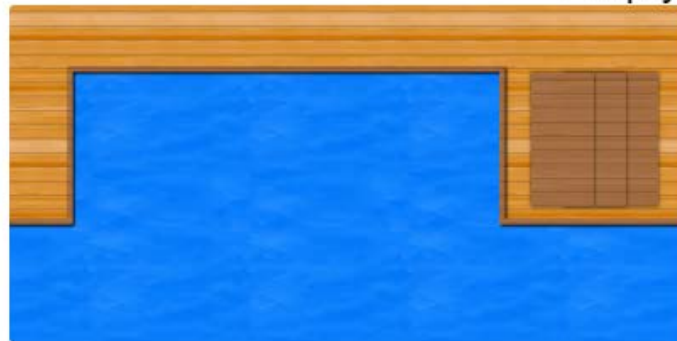
ft

Try it



Help your friends!

Write instructions explaining how to calculate the right width of the parking space for any situation.



www.desmos.com

Central Park

DESMOS – TESTING EXPRESSIONS

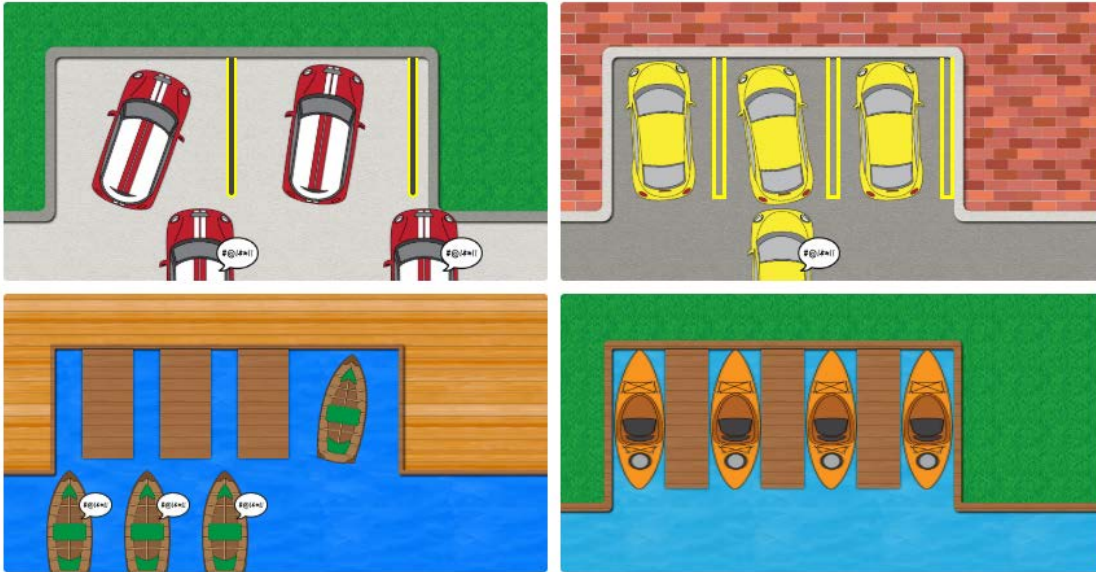
Use variables to write an expression for the ideal width (d) of each space.

For each of the lots below:

w is the width of the lot

p is the width of each divider

$$d = \frac{(w - 3p)}{(p + 1)} \text{ ft} \quad \text{Reset}$$



The number of dividers can change now.

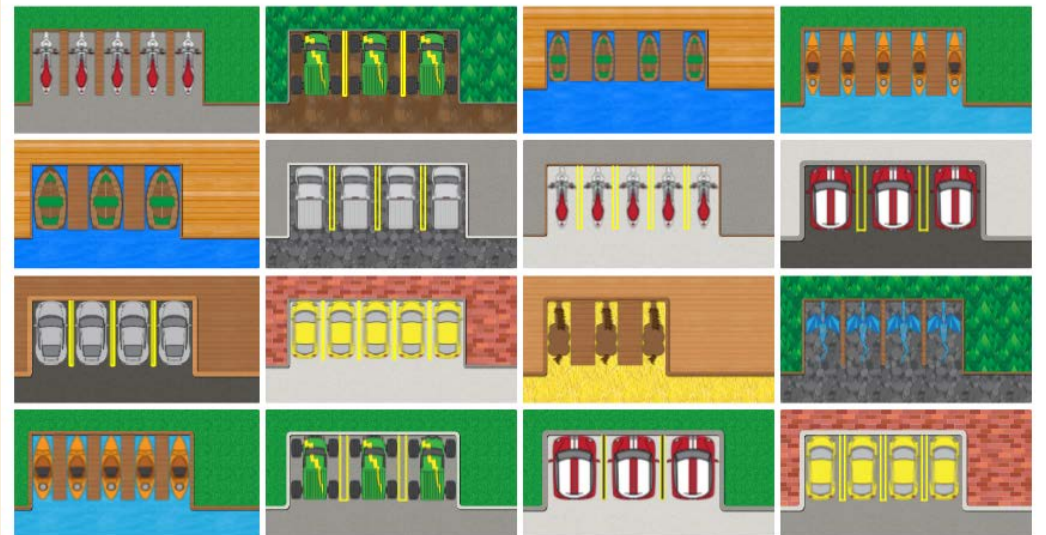
How wide should each space be if there are n dividers?

w is the width of the lot

p is the width of each divider

n is the number of dividers

$$d = \frac{(w - np)}{n + 1} \text{ ft} \quad \text{Reset}$$



MATH LITERACY AS AN ONLINE COURSE

- Challenges
 - Lack of in-person support for non-traditional aspects of the course
 - Group projects

MATH LITERACY AS A HYBRID COURSE

- Goal: Provide some of the flexibility of an online course with some of the support of an on-campus course
- First attempt: Colossal failure
 - Goal was to have students start on basics alone, work on harder stuff in class (like a flipped class)
 - Class was Tuesday, due dates on Sunday

MATH LITERACY AS A HYBRID COURSE

- Challenges

- Irregular attendance makes groups unstable
- Students wait until class to start the week's assignments so aren't ready for advanced material

- Strategies

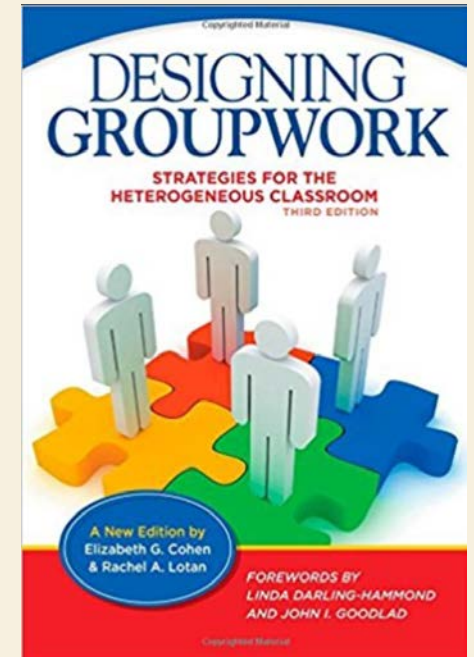
- Make assignments due shortly after class period
- Treat it more like an online class with a tutor hour

TRAINING FOR MATH LITERACY INSTRUCTORS

- Meeting with Coordinator
 - Brief overview
 - Discuss expectations
- Class Observations
 - Observe at least two instructors

TRAINING FOR MATH LITERACY INSTRUCTORS

- Advanced Training: Group work facilitation course
 - Based on *Designing Groupwork: Strategies for the Heterogeneous Classroom*, by Cohen and Lotan
 - Weekly readings and discussions, with a capstone project
 - Units: Benefits of Groupwork, Setting up Classroom Norms, Planning Groupwork,



THANK YOU!

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