

# Workshop for Middle School Teachers!

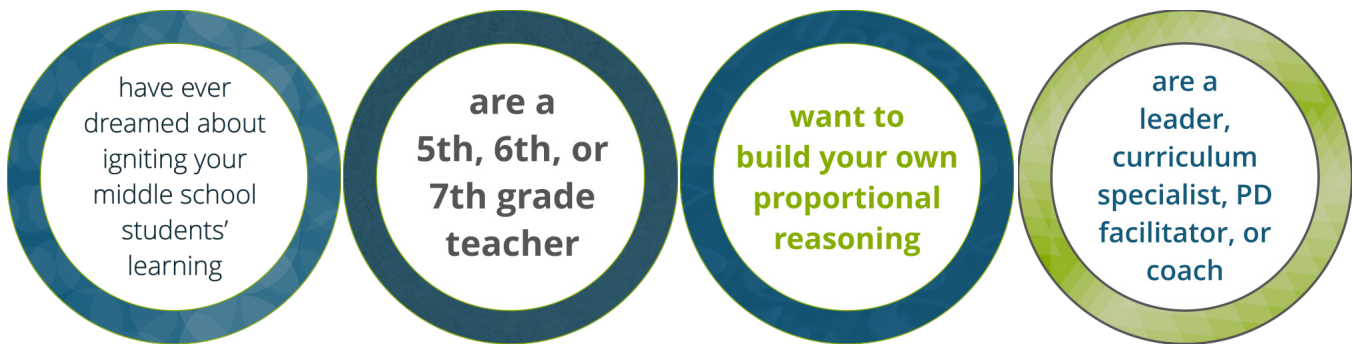
## BUILDING POWERFUL PROPORTIONAL REASONING: RATIO & PROPORTION

### If not cross multiply & divide, then what?

#### Frustrated . . .

- **by unrealistic expectations** of teaching ratio and proportion to students who don't know the facts?
- **by new methods and models** you're expected to teach?
- **that your students should be more successful** since you are putting in so much effort?

### If you . . .



### then this workshop is for you!

No matter what stage you're in—developing your own proportional reasoning, learning how to construct proportional reasoning in your students, or perfecting your craft, you'll leave with action steps you can implement immediately.

The workshop is an asynchronous online experience for middle grade teachers and leaders. The workshop is designed to build participants' proportional reasoning, help participants understand how to build their students' proportional reasoning, and learn actionable strategies to support and challenge students. The work consists of presentations, discussions, and tasks that are based on video taken at a live 2-day workshop with seventh grade teachers. There are seven modules that take participants on a path from learning about proportional reasoning, supporting students to develop multiplicative thinking, using unit and non-unit rates, connecting the learning to table, graphs, and equations, studying lesson types to construct reasoning, analyzing high leverage teacher moves, and extending proportional reasoning into new contexts.



More information about Building Powerful Proportional Reasoning: Ratio & Proportion:  
<http://mathisfigureoutable.com/bppr>

**HELPING YOU** become the math teacher you want to be

# Executive Summary

## BUILDING POWERFUL PROPORTIONAL REASONING: RATIO & PROPORTION

### Workshop Summary:

The workshop is an asynchronous online experience for middle grade teachers and leaders. The workshop is designed to build participants' proportional reasoning, help participants understand how to build their students' proportional reasoning, and learn actionable strategies to support and challenge students. The work consists of presentations, discussions, and tasks that are based on video taken at a live 2-day workshop with seventh grade teachers. There are seven modules that take participants on a path from learning about proportional reasoning, supporting students to develop multiplicative thinking, using unit and non-unit rates, connecting the learning to table, graphs, and equations, studying lesson types to construct reasoning, and analyzing high leverage teacher moves.

### WORKSHOP OUTLINE

- MODULE 1:** What is Proportional Reasoning
- MODULE 2:** Practical strategies for teaching students who don't know their facts
- MODULE 3:** The teacher's role in developing students' proportional reasoning
- MODULE 4:** Using contexts to strengthen students' reasoning
- MODULE 5:** Top 3 lesson types for student success
- MODULE 6:** Expert teacher moves that help you help your students
- MODULE 7:** Differentiation and Extension of Proportional Reasoning

### TIME COMMITMENT

Each module consists of 4-6 lessons. It takes from 2-4 hours to complete each module. Participants have 16 weeks to finish the workshop. Each module begins with a welcome video to orient participants to the topic and the time commitment they can expect for each lesson. Along the way, there are incentives (such as resource giveaways) to help participants stay on task and finish the workshop.

### PARTICIPANT TASKS

Lessons consist of watching video of the live workshop, working problems, predicting student strategies, comparing strategies, representing student thinking, a Desmos card sort, and analyzing video of expert teaching of middle school students. Participants interact with Pam Harris and other participants on the workshop message boards. Participants submit questions to be answered in a recorded, live Q/A webinar. Each module ends with lessons, tasks, and problems to try in classrooms.

More information about Building Powerful Proportional Reasoning: Ratio & Proportion:  
<https://www.mathisfigureoutable.com/Building-Powerful-Proportional-Reasoning-Online-Workshop>