An oldie but goodie to whet your appetite….

Karen had a bag of marbles. She gave one-third of them to Rose and then one-fourth of the remaining marbles to Jon. Karen had 24 marbles left in the bag.

- How many marbles were originally in the bag?
- How many different ways can you teach students to solve this problem?

Each row will receive a grade/course specific task in this session. Pay attention to aisle markers.

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Incredible Tasks! - Developing the Standards for Mathematical Practices

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National Council of Teachers of Mathematics Annual Meeting

Possible Solution Pathways

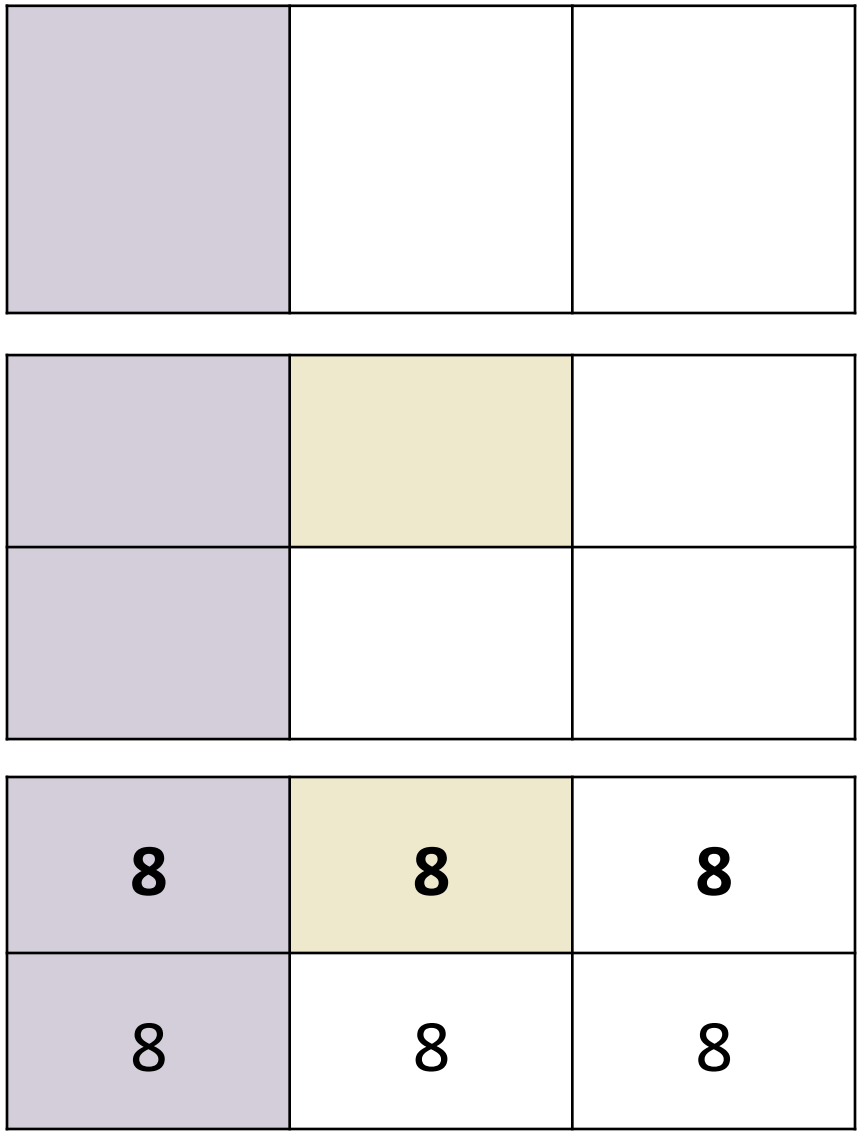
$$\frac{1}{3}x+\frac{1}{4}\left(x-\frac{1}{3}x\right)=24$$

$$\frac{1}{3}x+\frac{1}{4}\left(\frac{2}{3}x\right)=24$$

$$\frac{1}{3}x+\frac{1}{6}x=24$$

$$\frac{3}{6}x=24$$

$$x=48$$



Outcomes

- Collaboratively engage in worthwhile mathematical tasks designed to elicit and develop the Standards for Mathematical Practices.
- Investigate implications for implementing worthwhile tasks with fidelity.

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Building a Common Understanding of "Worthwhile Mathematical Tasks"

Solve this system of equations using substitution.

$$\begin{cases} 3x + y = 5 \\ 2x + 2y = 2 \end{cases}$$

Olivia and her brother William had a bicycle race. Olivia rode at a speed of 20 feet per second, while William rode at a speed of 15 feet per second. To be fair, Olivia decided to give William a 150-foot head start. The race ended in a tie. How far away was the finish line from where Olivia started?

Two equations share the solution (2, -1). What might those equation be?

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https://secondarymathcommoncore.wikispaces.hcpss.org/
(Adapted from *Glencoe Algebra 1* Student Word Problem Workbook 5-1
http://glencoe.mcgraw-hill.com/sites/0078738229/student_view0/student_workbooks.html) \

Common Ground

1. The problem has important, useful mathematics embedded in it.
2. The problem requires higher-level thinking and problem solving.
3. The problem contributes to the conceptual development of students.
4. The problem creates an opportunity for the teacher to assess what his or her students are learning and where they are experiencing difficulty.
5. The problem can be approached by students in multiple ways using different solution strategies.
6. The problem has various solutions or allows different decisions or positions to be taken and defended.
7. The problem encourages student engagement and discourse.
8. The problem connects to other important mathematical ideas.
9. The problem promotes the skillful use of mathematics.
10. The problem provides an opportunity to practice important skills.

http://www.nctm.org/news/content.aspx?id=25713

World Series of Pop Culture

Nick, Camille, and Justyce have been practicing answering sample questions from each category. The table below shows the number of correct responses each student had during practice:

	Nick	Camille	Justyce
Music	9 out of 10	6 out of 8	10 out of 12
TV	10 out of 15	9 out of 12	11 out of 12
Movies	4 out of 7	8 out of 10	6 out of 9
Books	5 out of 6	3 out of 4	10 out of 12
Famous People	1 out of 3	5 out of 7	6 out of 10

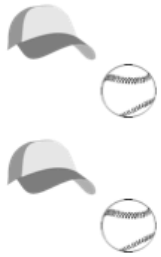
Design a strategy for when each student will go to the microphone. Include a second choice in the event that one of your teammates gets eliminated before that category is called. Explain why your strategy is the best.

Ping-Pong Balls in a 747

How many ping-pong balls would fit in a 747-Boeing airplane?

At the Baseball Shop

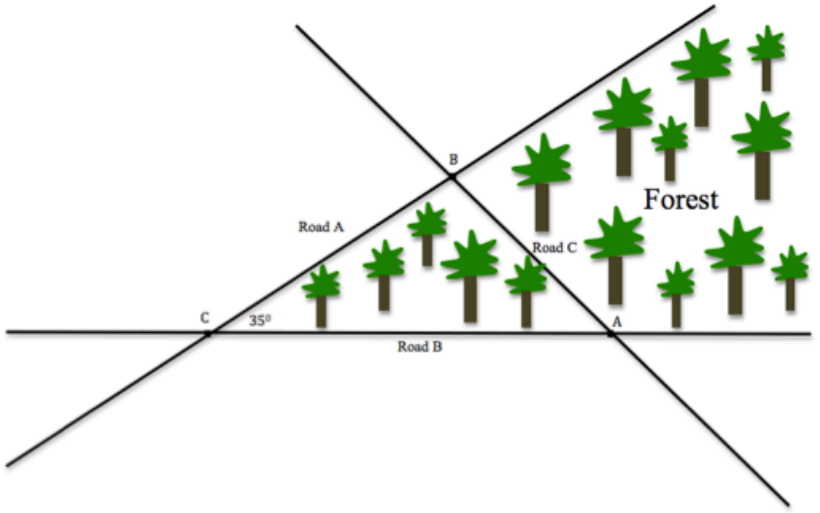
A baseball souvenir shop is offering the following packages for signed baseballs, hats, and bats:

Couple's Package	**Autograph Hunter Package**	**Let's Play Ball Package**
$46.00	**$31.00**	**$33.00**
		

If the baseball shop sells each item individually, what is the cost of each item?

Can we build it?

Superman's Shopping Center Site Map

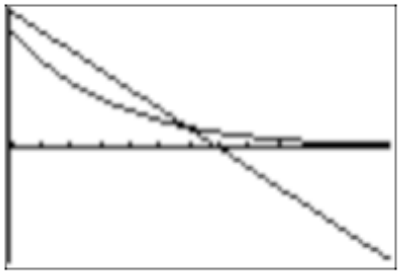


Note: The site map is not drawn to scale.

Discounting Tickets

Today, you have been hired as a member of the sales team for the Math Rocks Theatre. The only problem is that the tickets sales for the theatre have been very low for the past couple of months. One of your first jobs with your teammates will be examine different promotions and determine which plan will increase the tickets sales the most.

Now your boss tells you that he is horrible at math, but he has two promotion ideas to sell out the tickets to the next show. The first deal is to discount the tickets $10 per week until they sell out. The other deal is to discount the tickets 25% every week, until they are sold out.



Standards for Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

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Let's Reflect

AS A LEARNER

- As you engaged in the work, which specific math practices were in play?

AS AN EDUCATOR

- How might you design a lesson that ensures that a specific set (1-3) of math practices are developed with students?

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Reflection

- Let's Talk about Task Design and Evaluation
- Let's Talk about Classroom Implementation
- Let's Talk about the Math Practices

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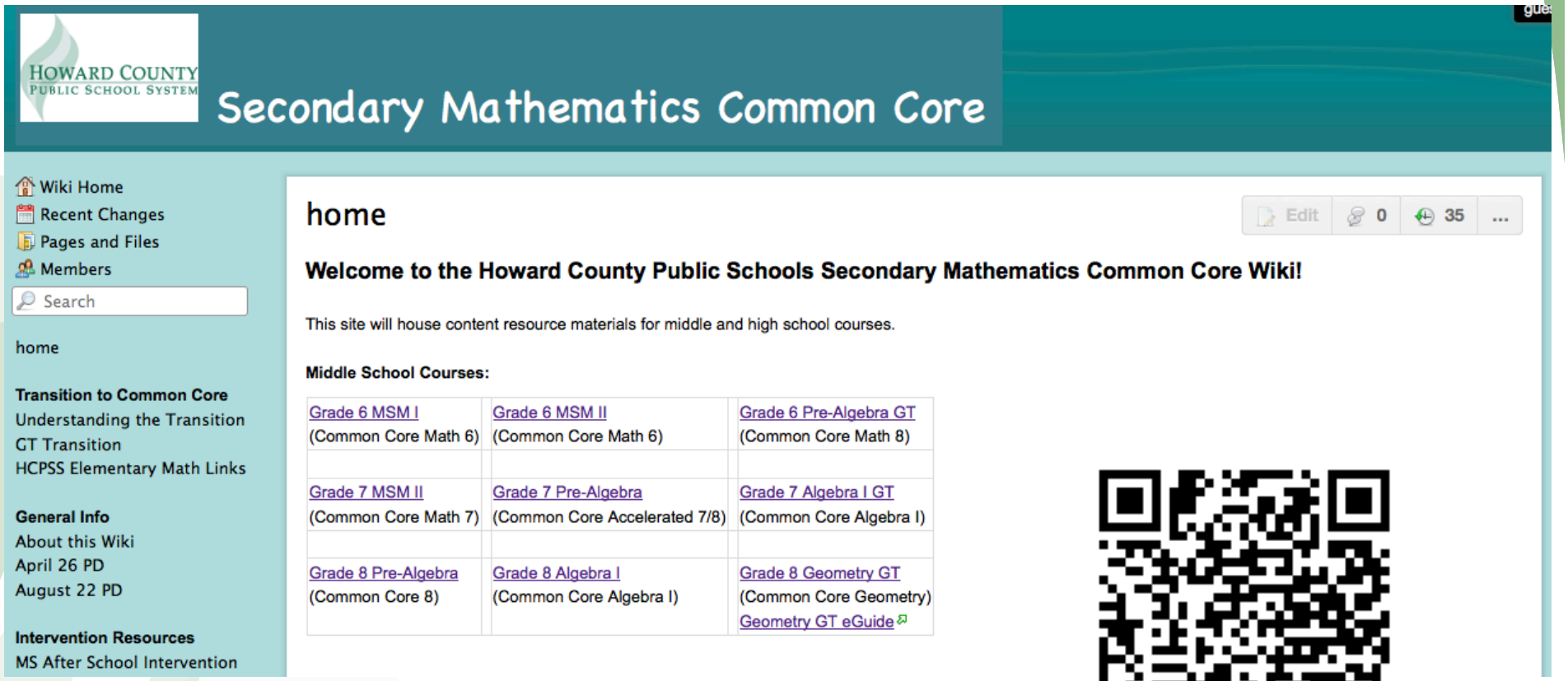
Join the Team!



https://secondarymathcommoncore.wikispaces.hcpss.org/

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Thank you.

For more information please contact us.

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