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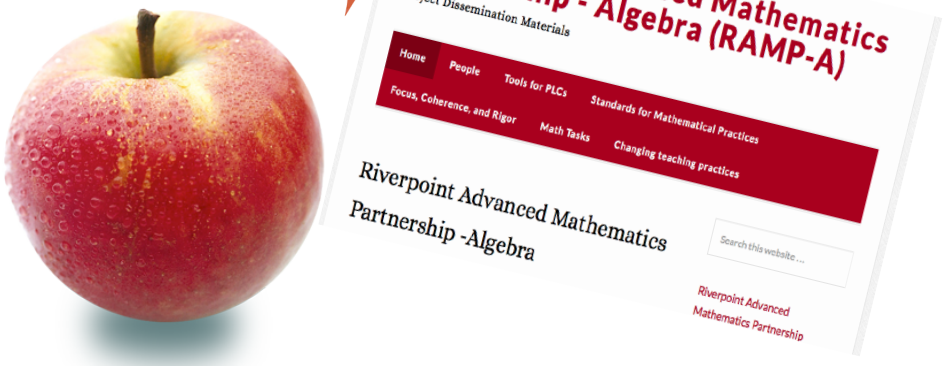
RAMP-A

Continuing to improve our teaching and learning together



Materials from workshops available online – no login

Most of the tasks we did throughout the three years, along with many of the other activities are available at the RAMP-A Wordpress website: https://sites.ewu.edu/jcoomes/ including the task Scott shared in the final summer workshop: "Derby on Marco Hill." We are still working to put items on the site, so if there is a task you really want, please email Jackie to have her email it to you or to put it on the website.

The SMP posters are also available at the website.

Courses and Opportunities

YouCubed

Jo Boaler offers courses for students and parents, as well as a week of tasks and other resources for teachers. A link to YouCubed is under 'Helpful Links' on the RAMP-A website.

Teaching statistics through data investigations

A course (MOOC) for math teachers that focuses on the statistics concepts taught in high school, specifically addressing standards from the CCSS. A link is on the RAMP-A website.

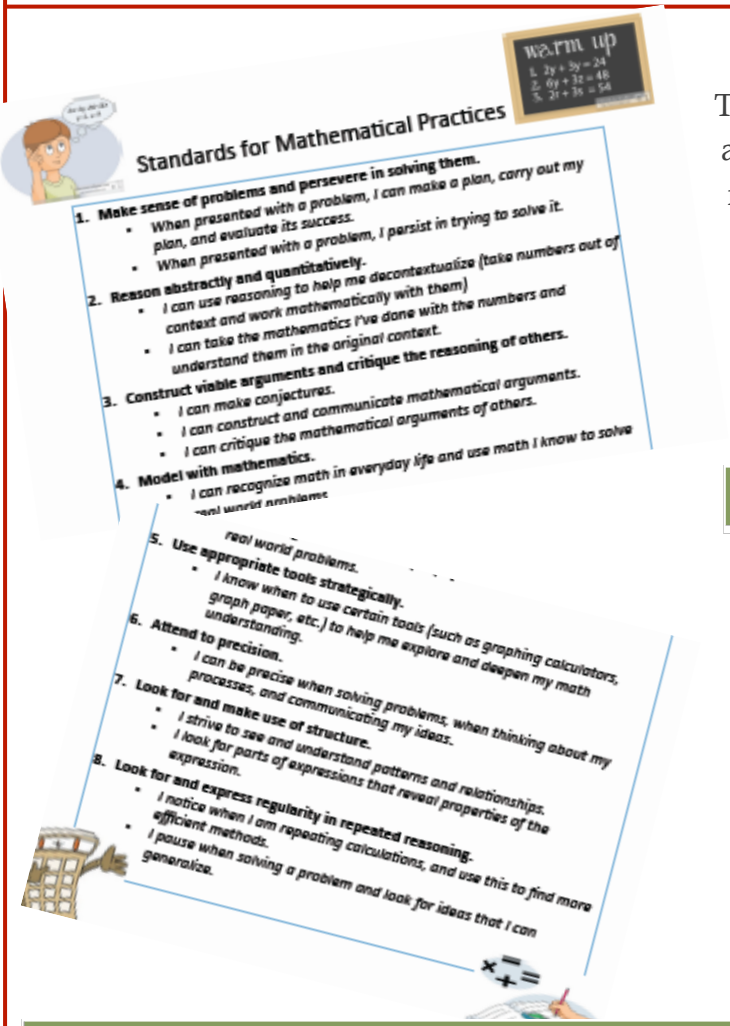
New Math Tasks Available

We always planned more than we could use for the RAMP-A workshops. Some of the tasks we didn't get to in the workshops are available at the website, including these this one:

A Fair Price?

Suppose you are going to buy an item and have been saving for it. Just when you are ready to buy it, the price goes up by x%. You are very upset and tell the sales clerk. The clerk talks to the manager, and the manager agrees to reduce the new price by x%. Does the discount bring the price back to the previous amount, or will it be higher or lower than the previous amount, or does it depend on the original price and percent change? Explore this problem and justify your answer.

This problem targets the key idea of *percent of what?* It usually elicits a pretty good discussion among students and helps prepare them to think about exponential functions.

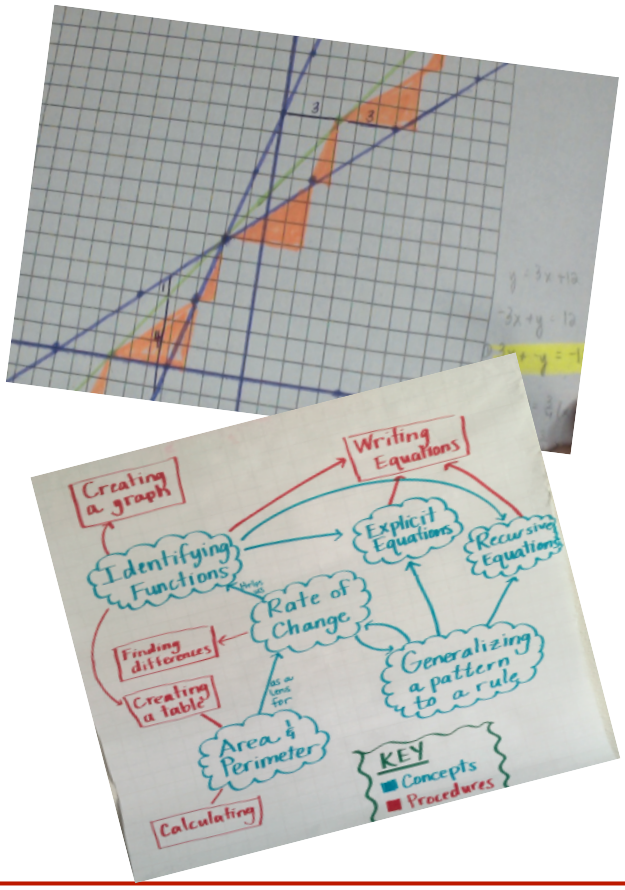


SMP

Throughout the project, we focused on understanding and teaching the SMP. One resource we used in the first year was a ten minute video of a 9th grade teacher whose lesson targeted A-SSE.2, conceptual understanding and focus. The video can be found at http://commoncore.americaachieves.org/ and is worth watching again and trying in your own classroom The teacher's worksheets are included.

Little Changes

Recall that we chose little changes in our teaching based on the changes we wanted to see in our students, and we chose student changes to target based on the SMP. For example, one PLC said they wanted their students to explain their thinking in more precise language. In order to accomplish this, they chose to change the ways they have students present their work. What other ways could we help students become more precise in their language and use of notation? What Little Change are you currently committed to?

Ten-Minute Talks: Discuss with your Colleagues

In the last year of RAMP-A we used Ten-Minute Talks, an adaptation of Number Talks (see examples at http://www.insidemathematics.org/classroom-videos/number-talks) to get more students to share their ideas about the meanings or structures they were seeing, and to inform our teaching about their preconceptions. Using a Ten-Minute Talk in a precalculus class recently, a teacher asked students to describe their meaning of slope. Some of their answers were: "rise over run" "the angle of a line" "slope always has a numerator and a denominator even if it is 2/1" and "the m in y=mx+b." The teacher wanted to teach average rate of change of a function on an interval; given these answers, what questions would you ask next to help students further develop and expand their understandings?