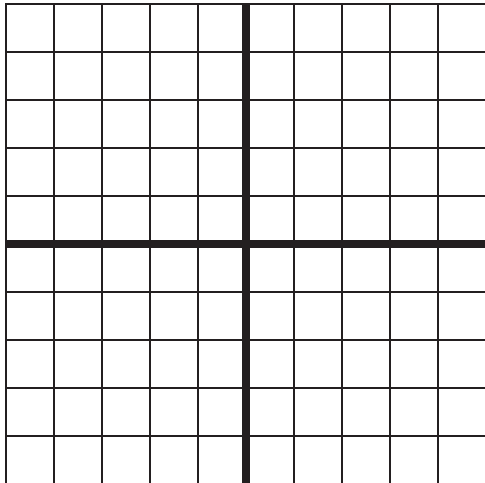


Racks, Rectangles & Pieces: Developing Multiplication Fluency with Properties

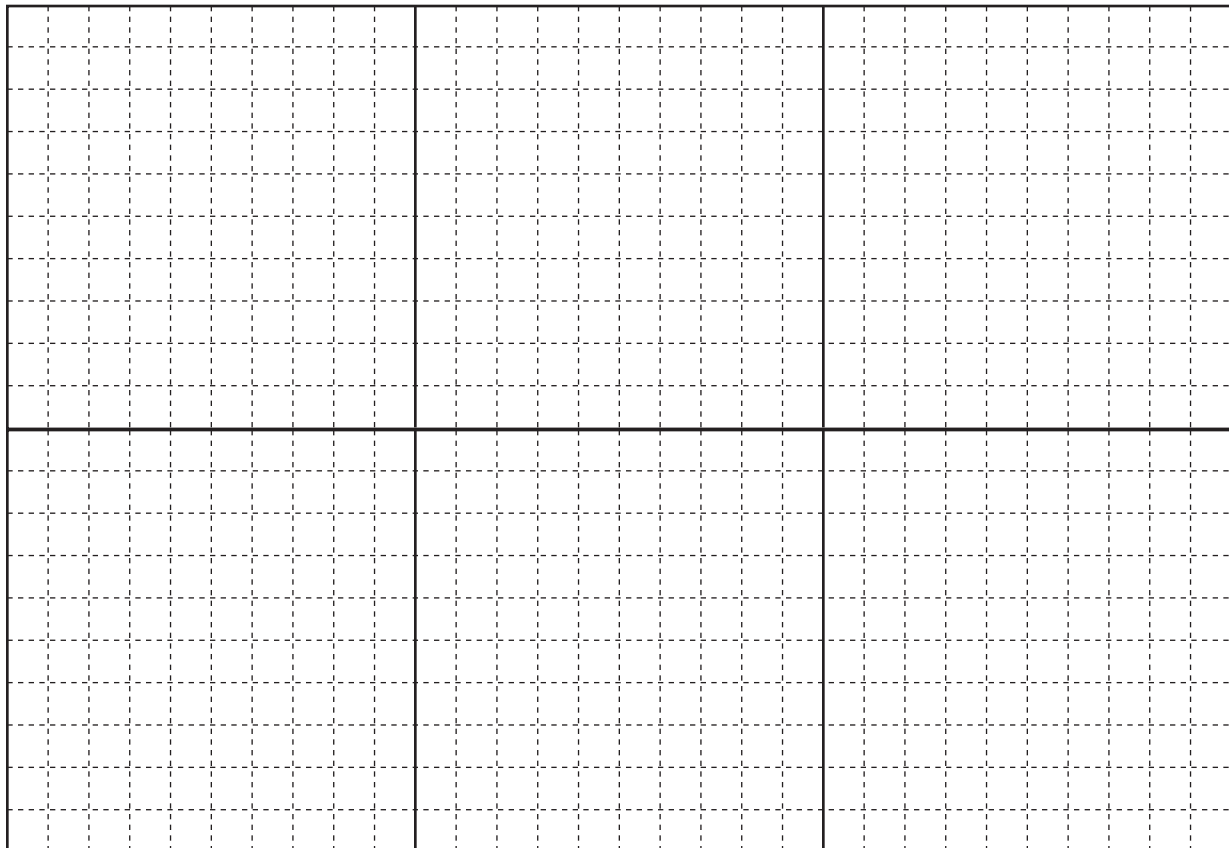
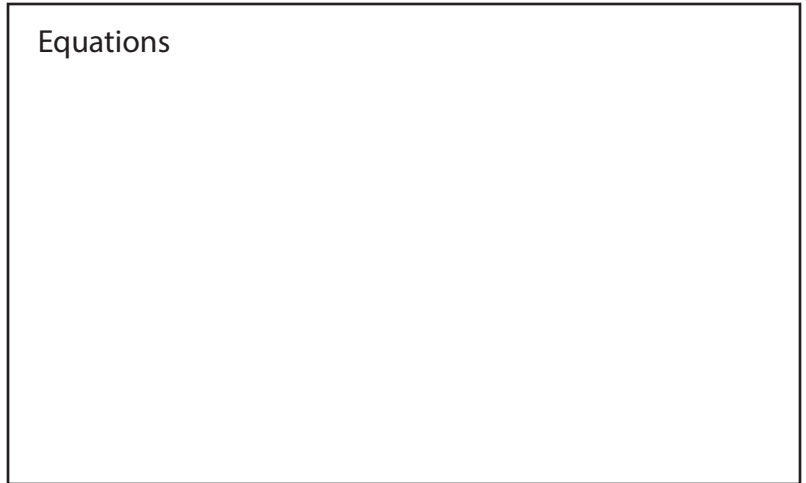
Friday, April 11 • 9:30 – 10:30 a.m. • Convention Center, R07

Allyn Fisher & Martha Ruttle • www.mathlearningcenter.org

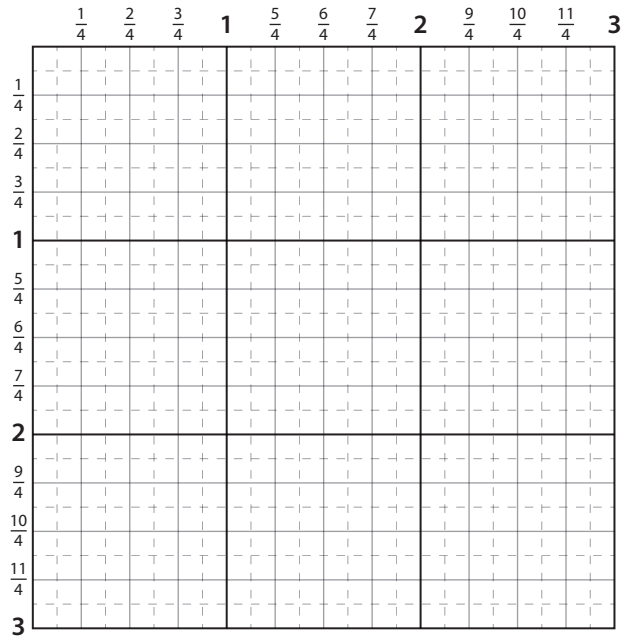
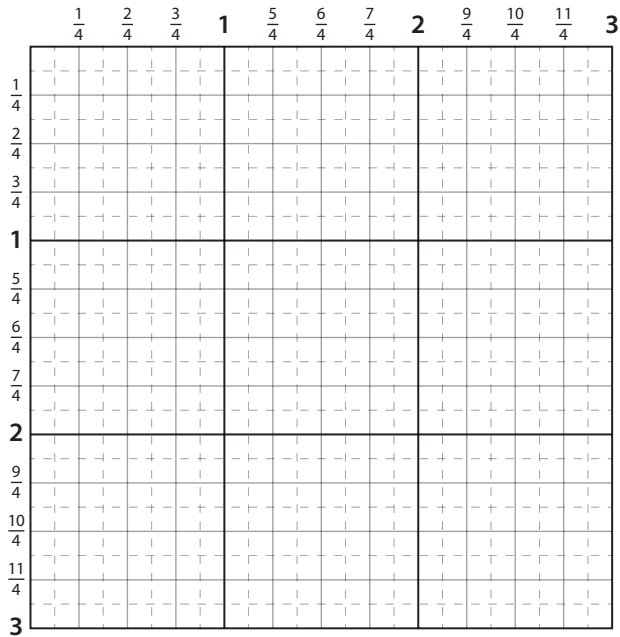
Note This handout includes the sheet we gave out during the presentation, as well as full-page copies of the specialized grids and grid paper we shared. If you would like more information about the strategies or models shared during the presentation, or access to our Power Point, please contact Allyn Fisher by e-mail at allyngfisher@comcast.net.



Four-Quadrant Hundreds Grid



Base Ten Grid

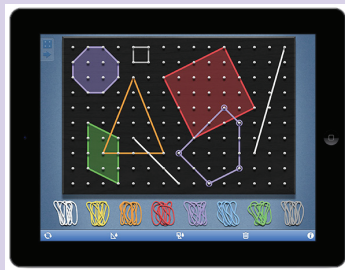


3" x 3" Grids

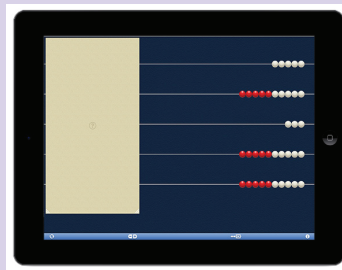
Free Virtual Manipulatives

as featured in Bridges in Mathematics

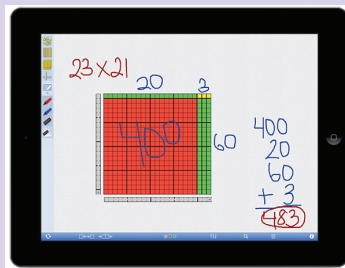
This growing collection of free apps reflects MLC's commitment to inquiry-based learning. The flexible, open-ended design makes them ideal for any learning environment.



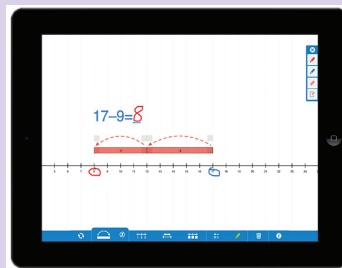
Geoboard



Number Rack



Number Pieces



Number Line

For more information about virtual manipulatives, please visit:

mathlearningcenter.org/apps

Make Your Own Flashcards

individual activity with adult help

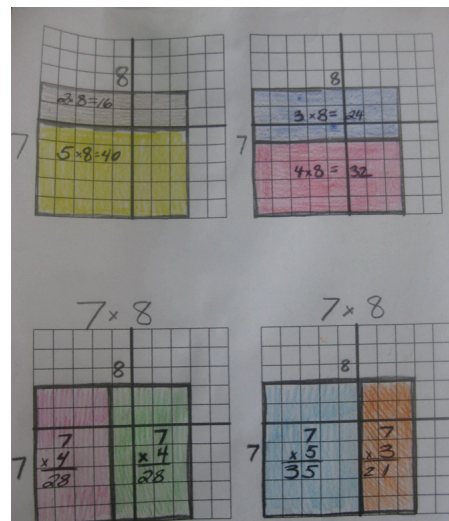
Instructions

1. Decide what multiplication facts you need to practice.

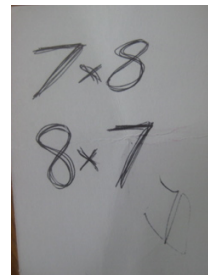
- You might have learned most of the facts but there are a few that are still tricky for you.
- You might be learning your multiplication facts still and want to focus on the facts you want to learn right now (e.g., multiplying all numbers from 0 to 10 by 4).

2. Make your own flashcards for those facts.

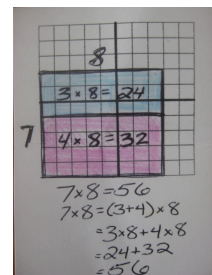
- Use the example cards for some ideas.
- Write the fact on the front in two ways.
- On the back of the card, show the strategy that makes the best sense to you for remembering how to find the product. You might want to try out a few strategies on a grid before deciding which one you like best.



A selection of ways to find 7×8 .

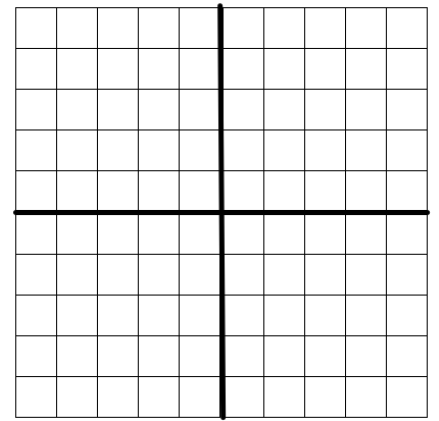
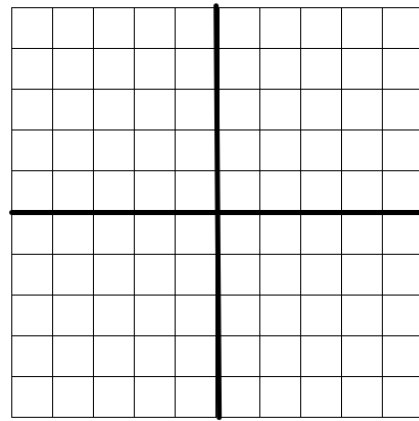
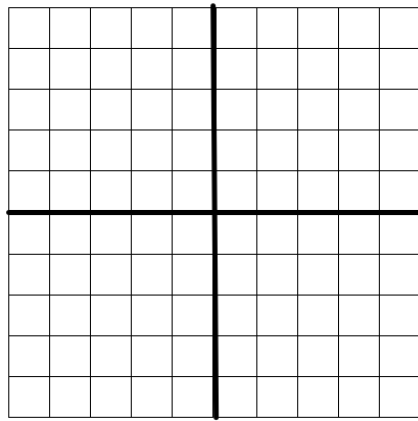
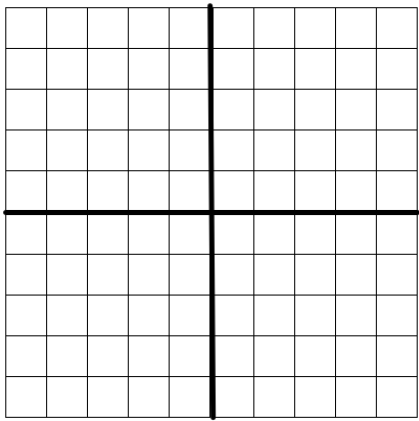
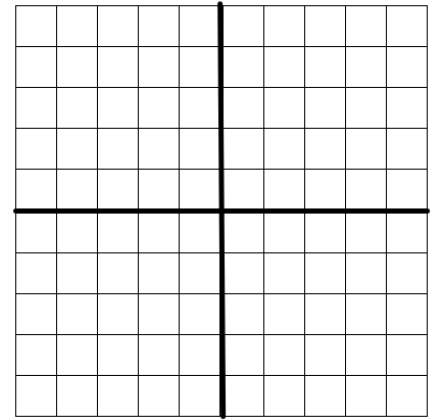
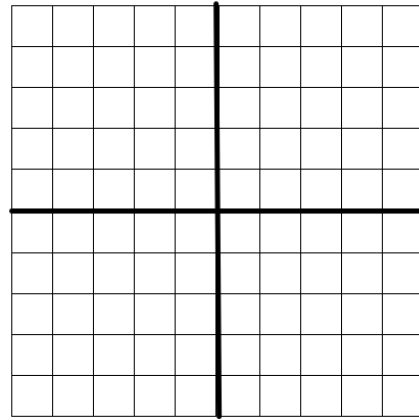
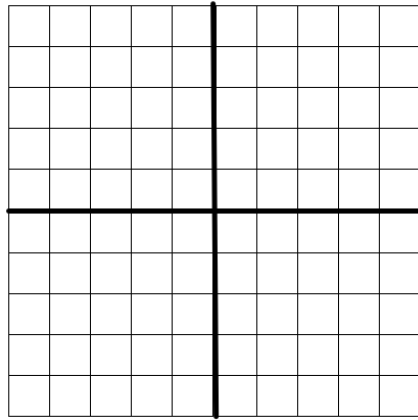
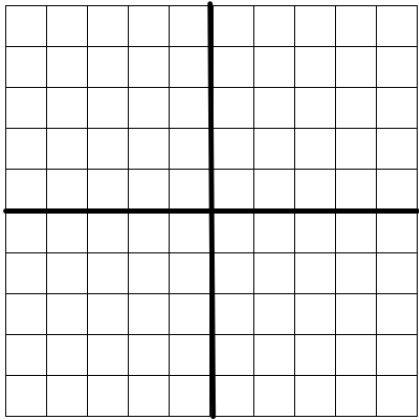


front of card



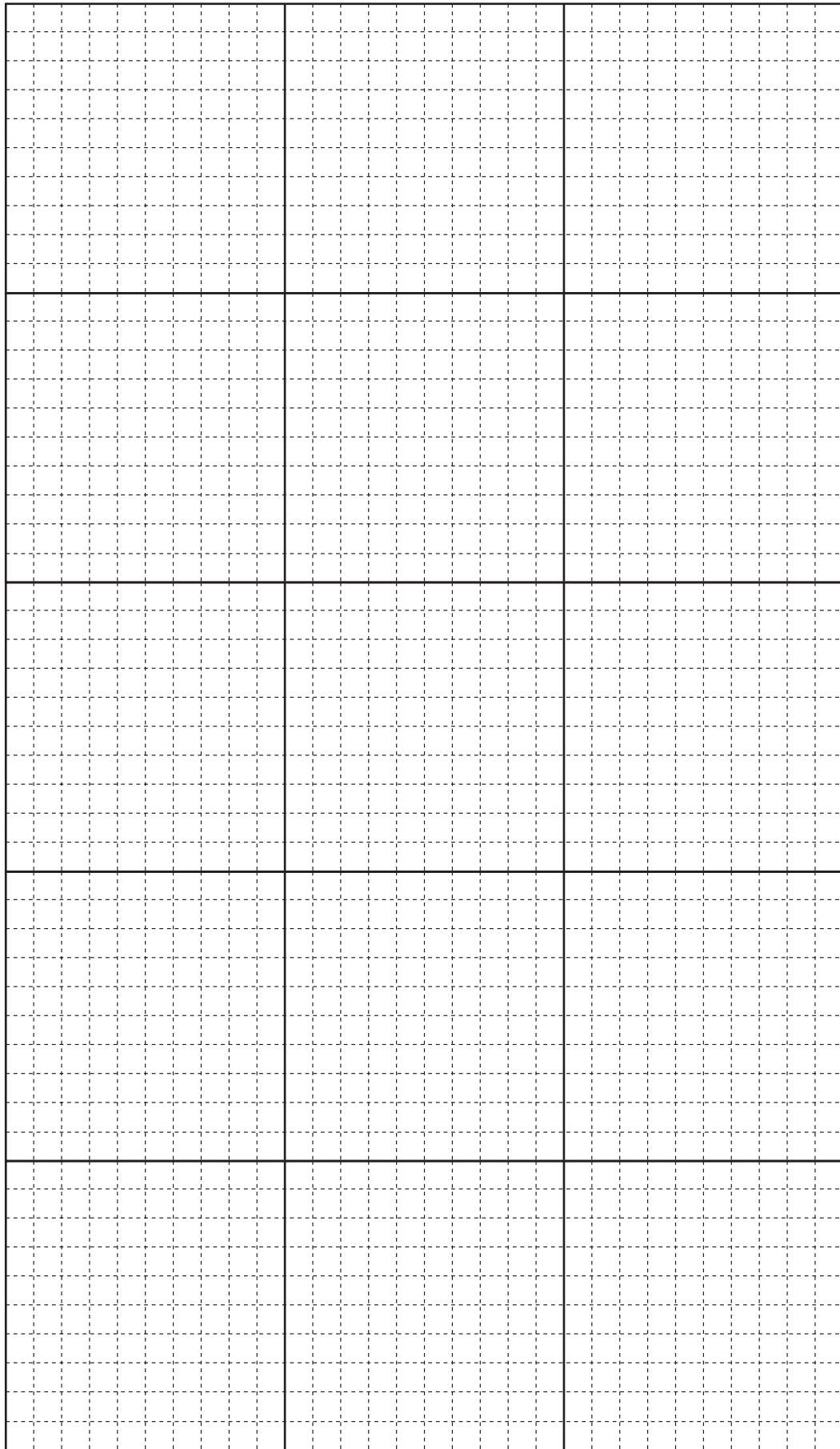
back of card

3. Take your flashcards home! Practice on your own or with someone else until you know these facts!



NAME _____ DATE _____

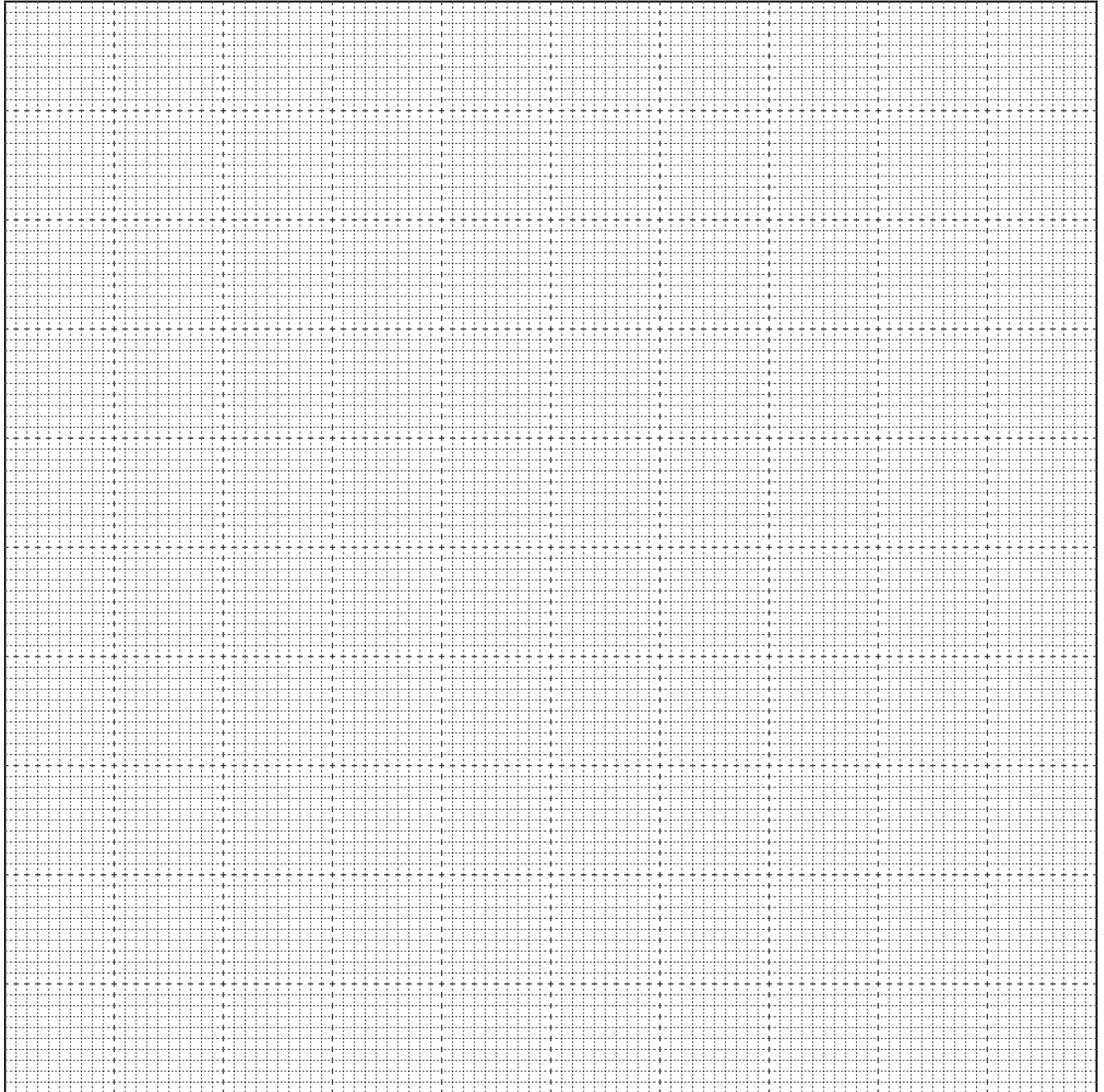
Small Base Ten Grid Paper



NAME _____

DATE _____

Decimal Grid





Three-by-Three-Inch Grids

	$\frac{1}{4}$	$\frac{2}{4}$	$\frac{3}{4}$	1	$\frac{5}{4}$	$\frac{6}{4}$	$\frac{7}{4}$	2	$\frac{9}{4}$	$\frac{10}{4}$	$\frac{11}{4}$	3
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$\frac{2}{4}$												
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	$\frac{1}{4}$	$\frac{2}{4}$	$\frac{3}{4}$	1	$\frac{5}{4}$	$\frac{6}{4}$	$\frac{7}{4}$	2	$\frac{9}{4}$	$\frac{10}{4}$	$\frac{11}{4}$	3
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