» Please sign in and have a seat.

Welcome!
Lisa J. Mails Elementary

Mindset and Math

Traditional Math

- Some kids are good at math and some are not. (ability grouping)
- Math is hard.
- If you can memorize facts and steps, you can do well.
- There are right and wrong answers. (fear of making mistakes)
- The teacher tells us how and we follow the directions.
- Focus on speed.

- All kids can be good at math.
- We need to focus on true understanding - not memorizing, speed, or simply following directions.
- There are many ways to get to an answer. Let's talk about your way. Let's explore different ways.
- **Mistakes are opportunities to learn. We need not fear them – they are part of the process of learning!**

Math Today

Growth Mindset

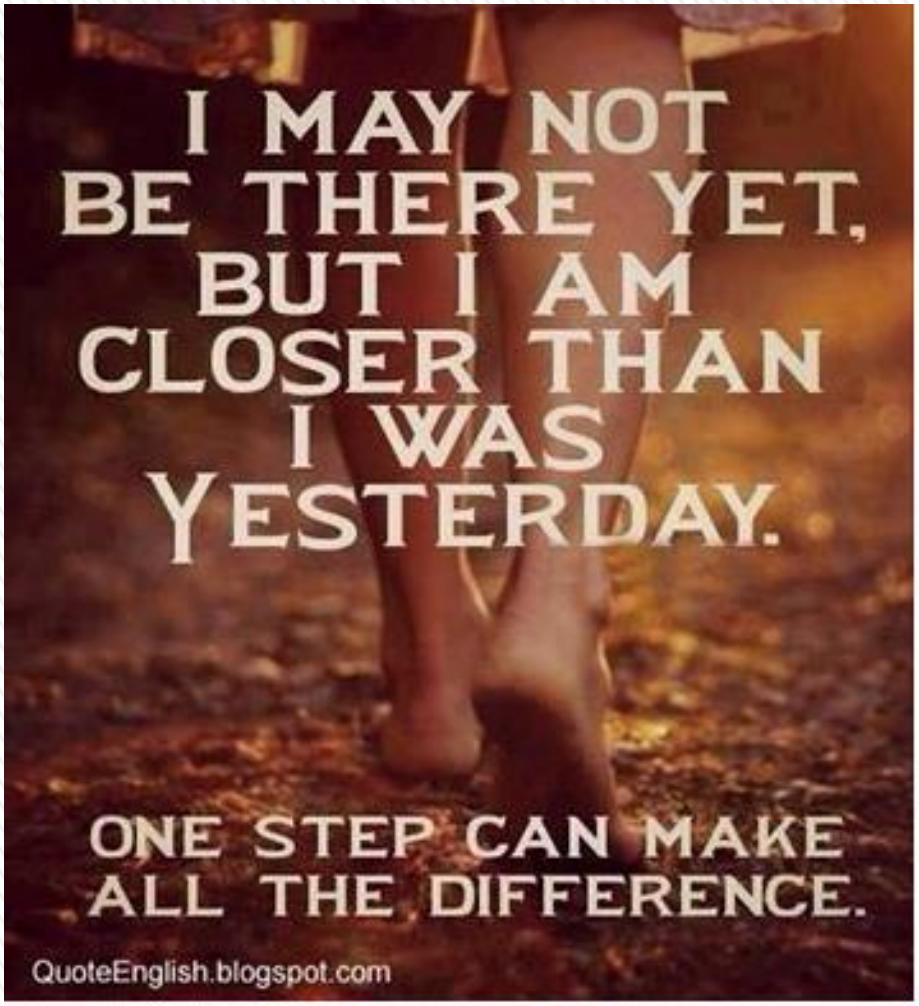
- Fixed vs. Growth Mindset
- Carol Dweck, Ph.D. – Mindset: The New Psychology of Success
- Ted Talk by Eduardo Briceno: http://www.mindsetworks.com/webnav/videogallery.aspx

- Talk to your child about their process. Talk to them about the science of the brain.
- Acknowledge their struggle. Encourage them to persevere.
- Model how you handle struggle in everyday situations. Talk out loud about it when you are facing something difficult.

Changing the Conversation

Changing the Conversaton

- Change your dinner conversation, “What did you struggle with today?” Make it a positive.
- Consider how you praise your child. Praise effort above all. Be thoughtful about how you give them feedback. “What Every Parent Needs to Know About Praise”
- Focus on the Power of **Yet**



The Power of Yet

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- Content Standards
- Practice Standards

Common Core Standards

Purpose of Common Core State Standards

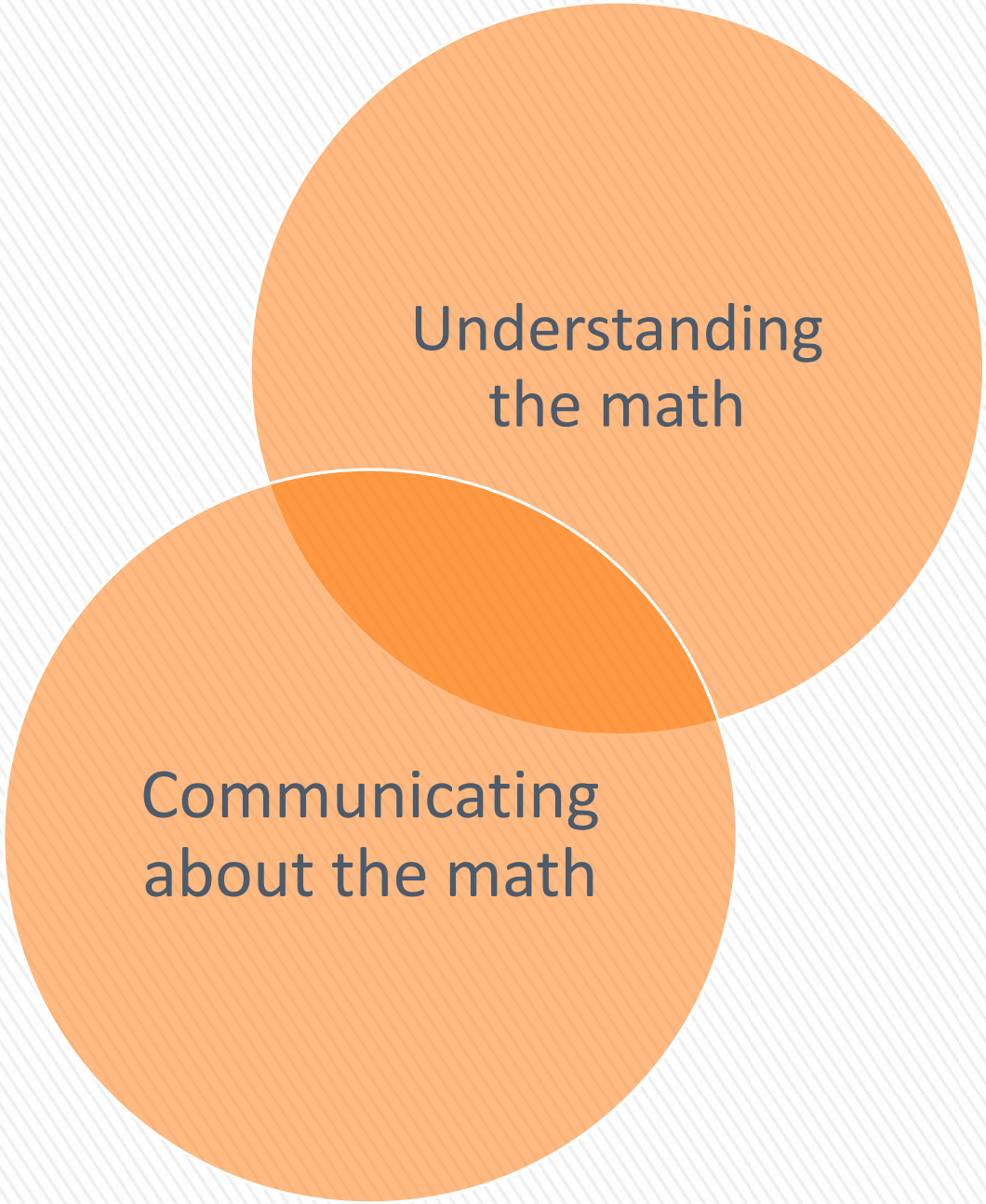
What Do Employers Want?

- Problem-Solving Skills
- Quick Learners
- Motivation
- Self-Starter
- Ability to Analyze/Interpret Data
- Oral Communication Skills
- Written Communication Skills
- Job-Specific Computer Skills
- Teamwork Attitude
- Innovative Thinking

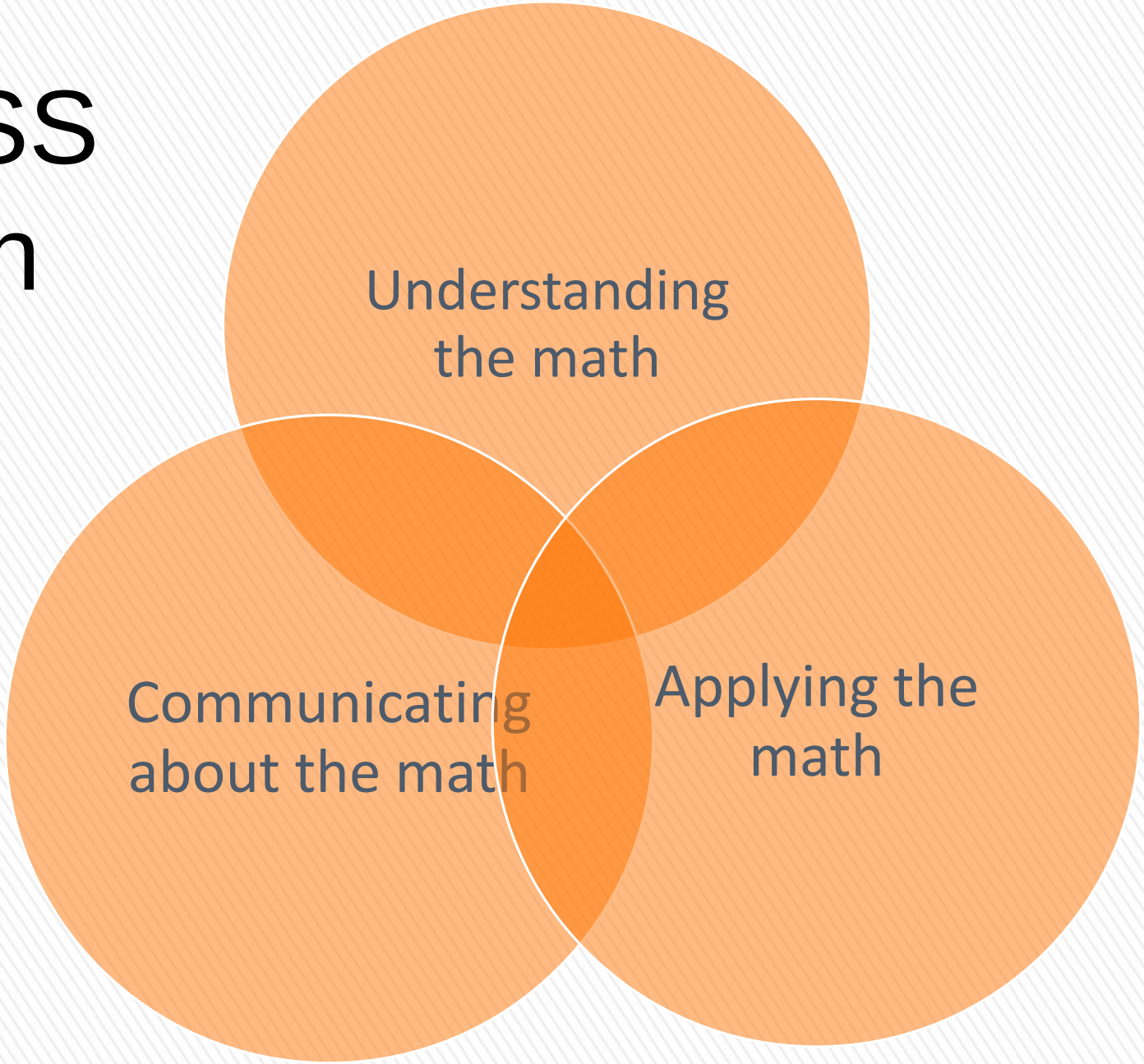
CCSS Math

Understanding the math

CCSS Math



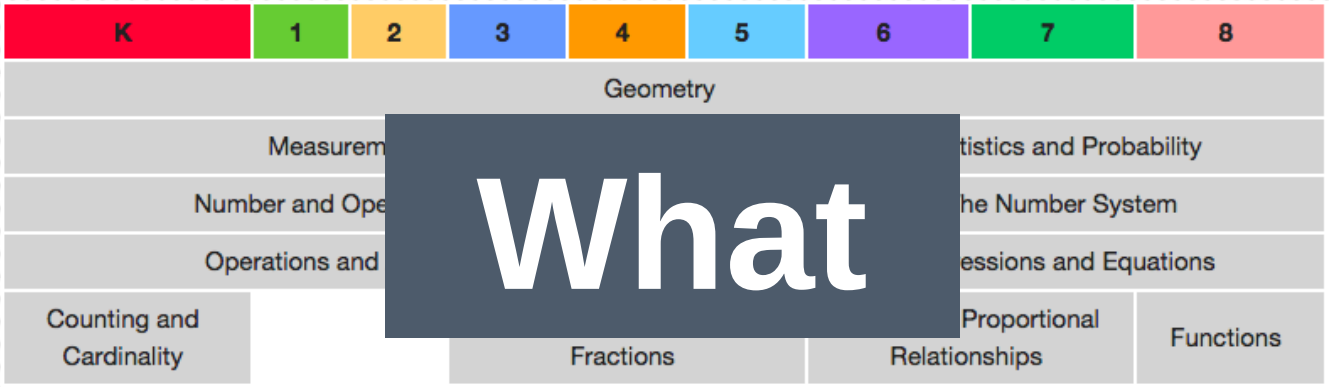
CCSS Math


Understanding the math
Communicating about the math
Applying the math

Char has two coupons when she bought her shoes at Macys. The clerk said the $10.00 off coupon is usually the better deal. Was the clerk correct? Explain your reasoning.

THE MATHEMATICS STANDARDS

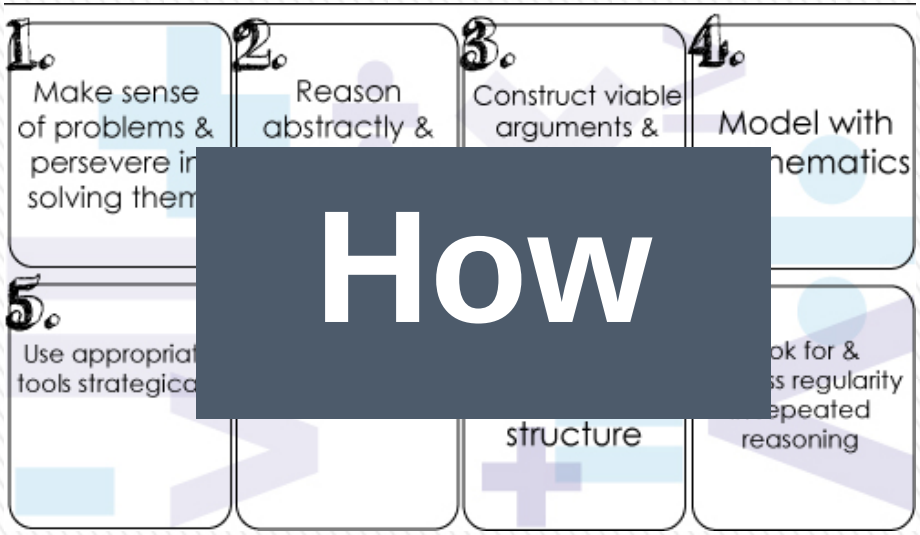
2 Sets of Standards



What

Content Standards

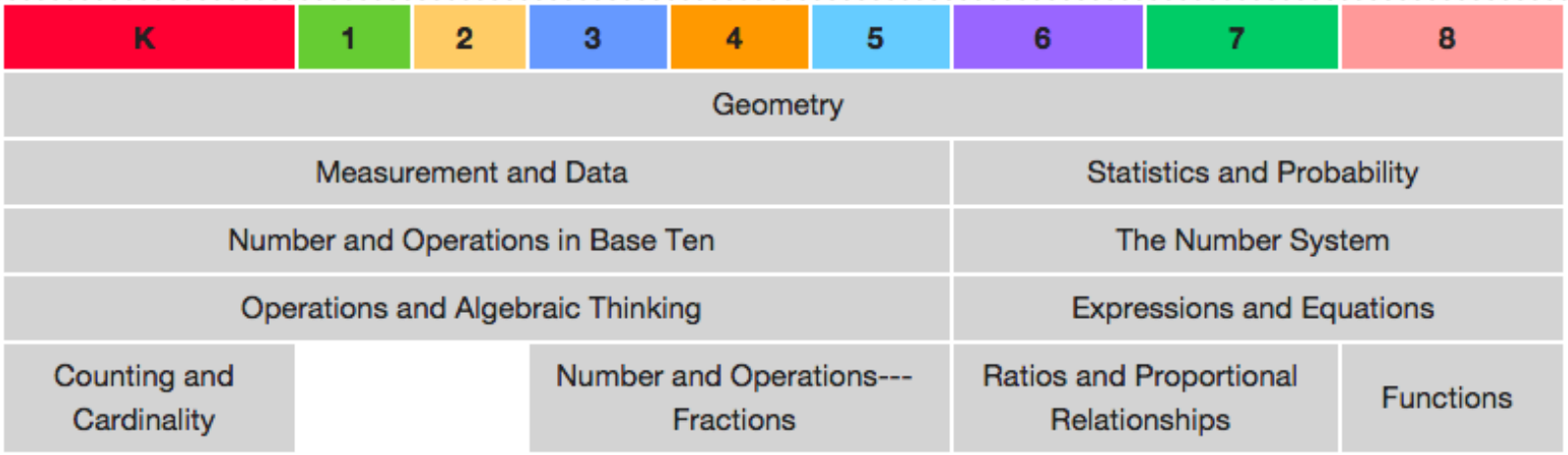
Standards for Mathematical Practice



How

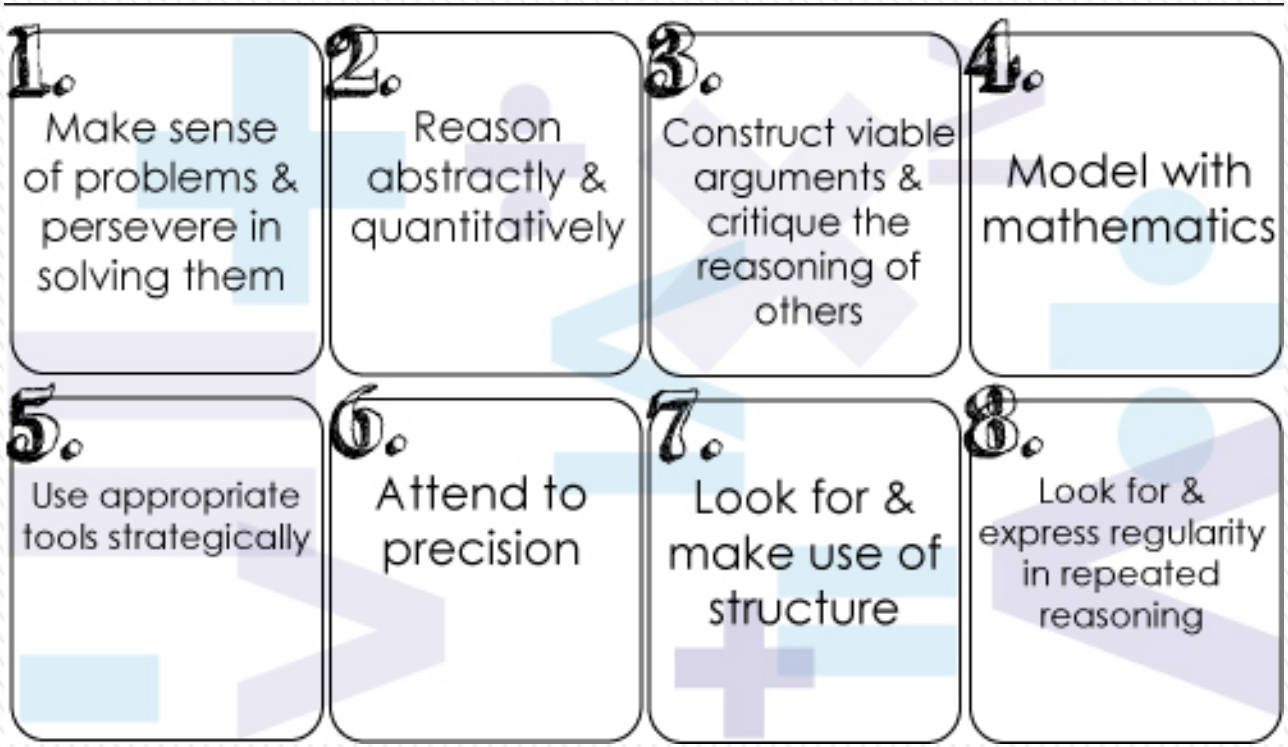
Common Core Content Standards *are* ***grade-specific*** *that focus on what students should* ***understand and be able to do*** *in the study of* ***mathematics****.*

"WHAT"



Standards for Mathematical Practice *describe what* ***students*** *should be* ***doing*** *as they learn mathematics. It describes how students should be engaging with the mathematics and fellow students.*

"How"

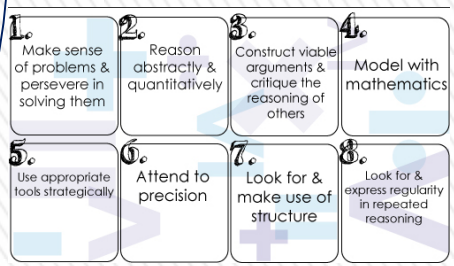


Math Content Standards

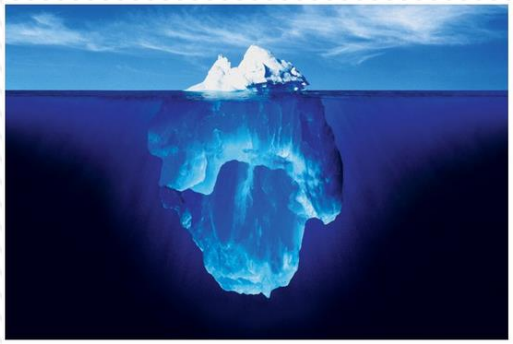
K	1	2	3	4	5	6	7	8
Geometry								
Measurement and Data						Statistics and Probability		
Number and Operations in Base Ten						The Number System		
Operations and Algebraic Thinking						Expressions and Equations		
Counting and Cardinality			Number and Operations---Fractions			Ratios and Proportional Relationships		Functions

Mathematically Proficient Students

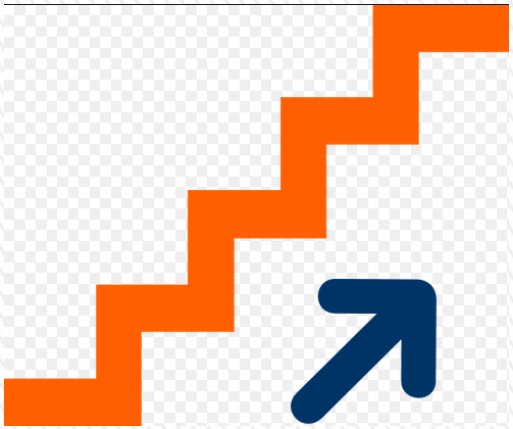
Standards for Mathematical Practice



Focus



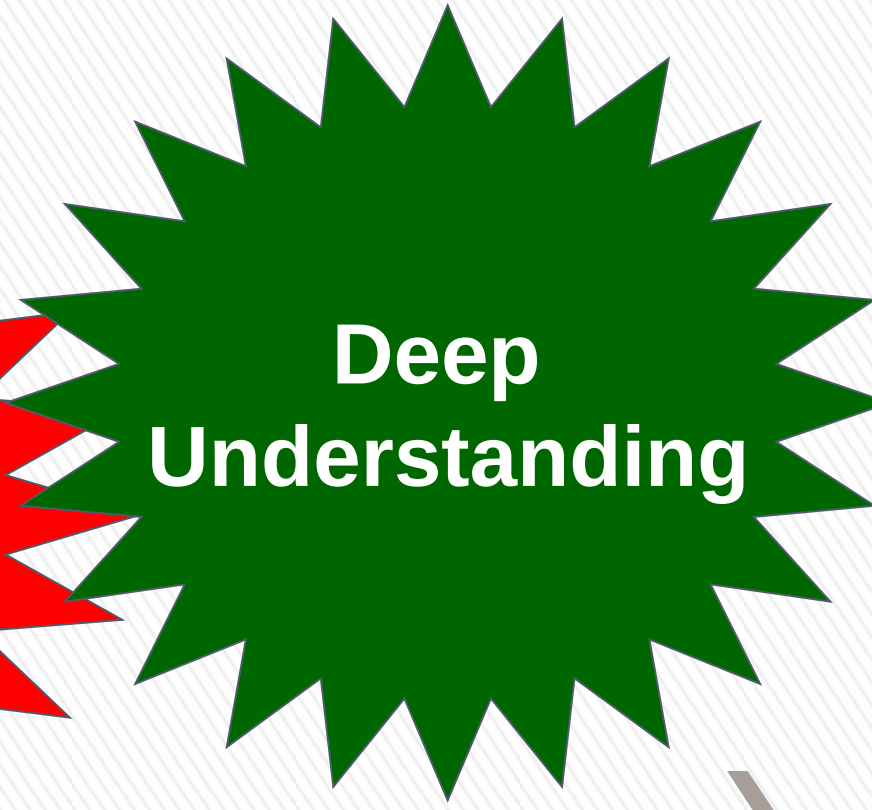
Rigor

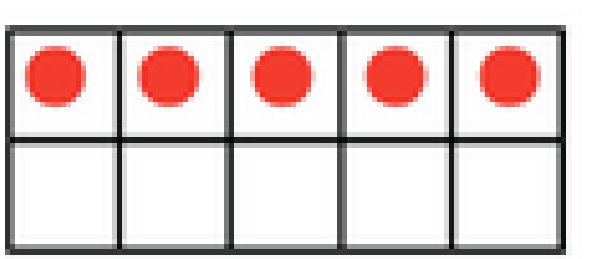


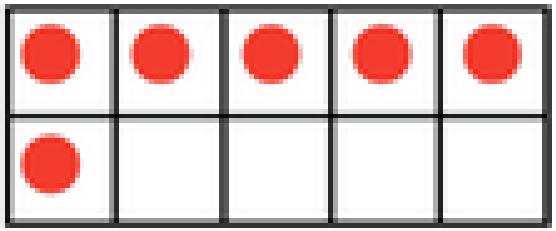
Coherence

CCSS Shifts in Mathematics

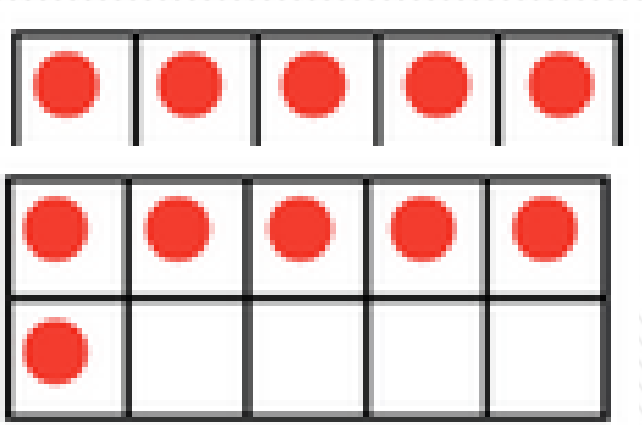
Rigor







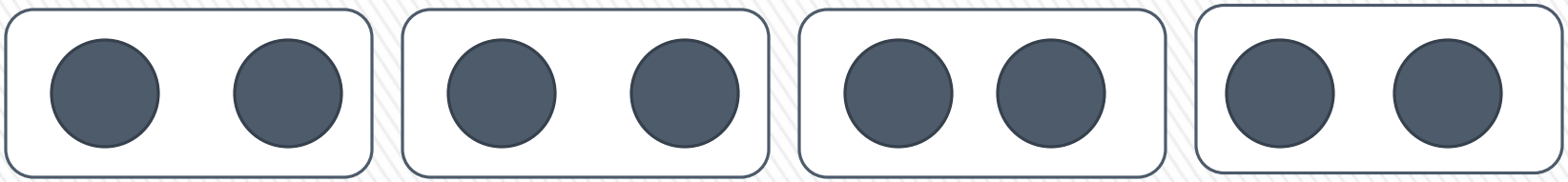
5 + 6

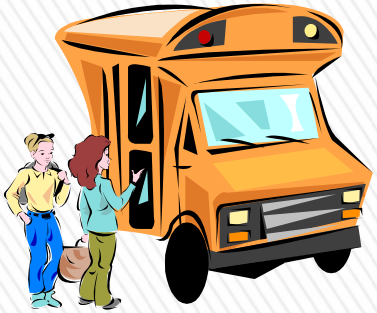


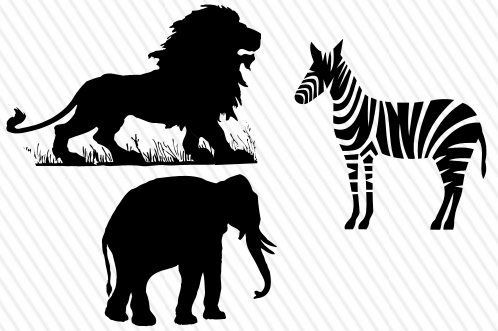
5 + 5 + 1 =
10 + 1 = 11

8 ÷ 2

How many groups of 2 are in 8?







19 children are taking a mini-bus to the San Diego Zoo. They will have to sit either 2 or 3 to a seat. The bus has 7 seats. How many children will have to sit two to a seat, and how many children will have to sit three to a seat?

Solve this task in at least two different ways.

Write your answer in a complete sentence.

Going to the Zoo

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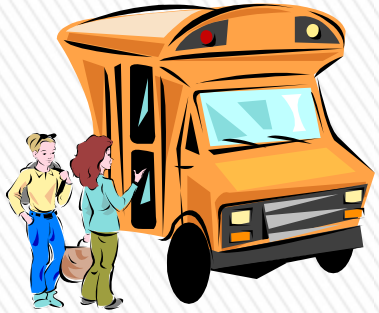
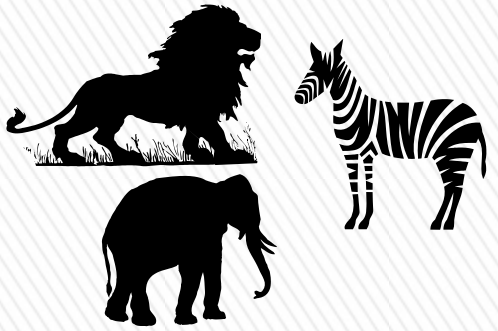
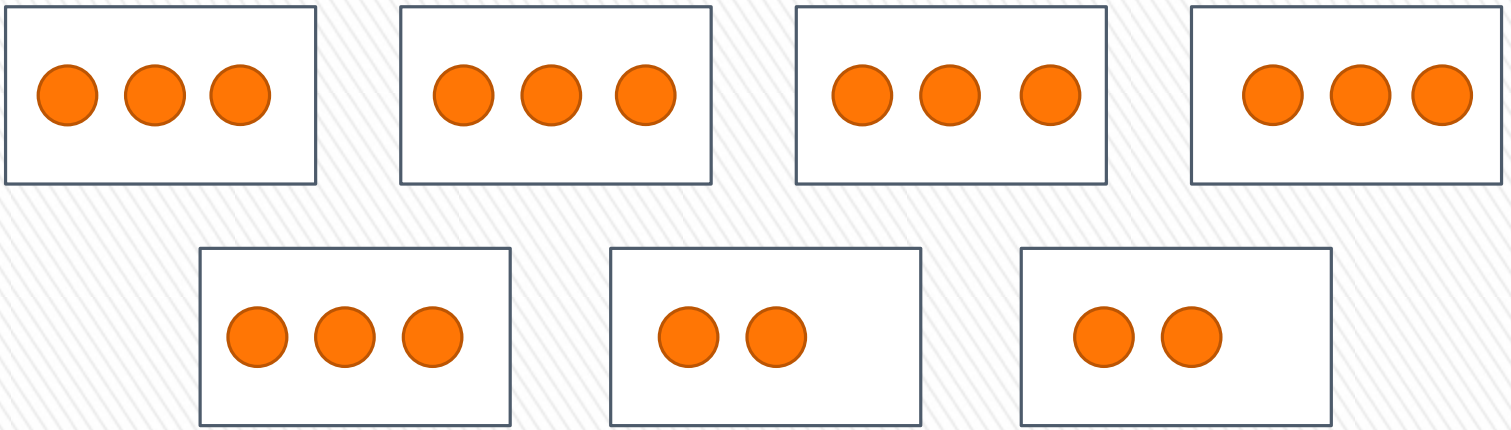
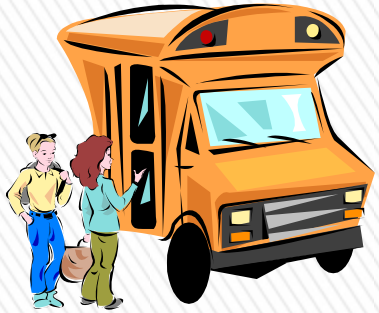
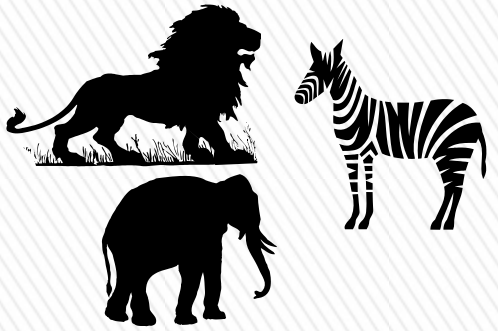






Four students will sit two to a seat and 15 students will sit 3 to a seat.





$2 \times 5 = 10$

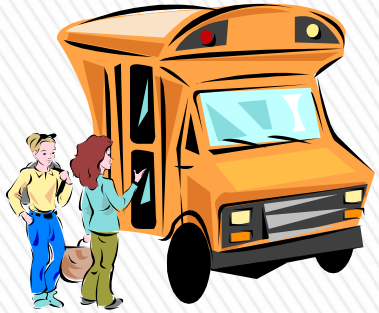
$3 \times 2 = 6$

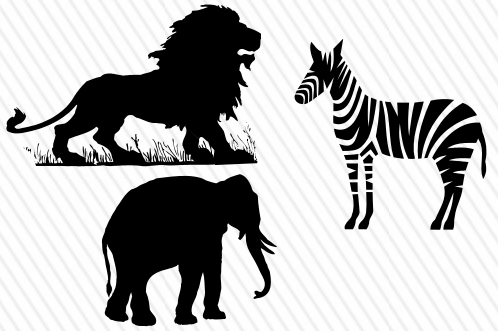
$2 \times 3 = 6$

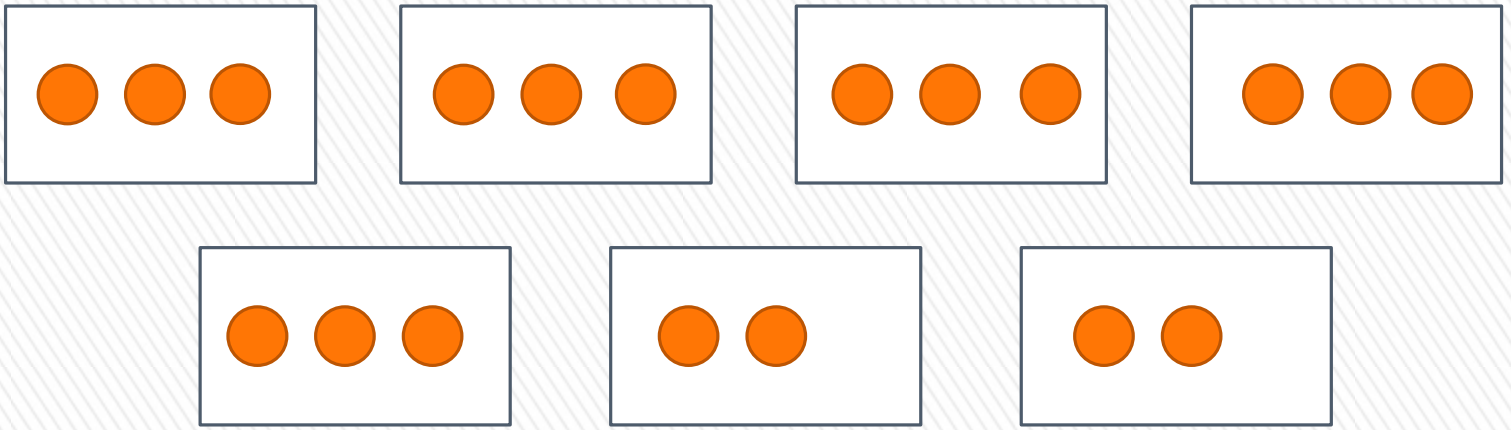
$3 \times 4 = 12$

$2 \times 2 = 4$

$3 \times 5 = 15$

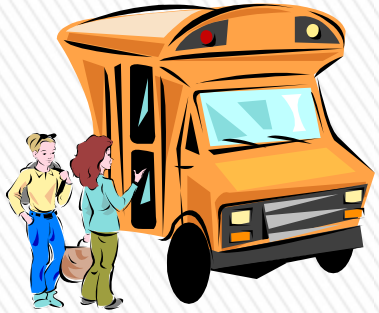


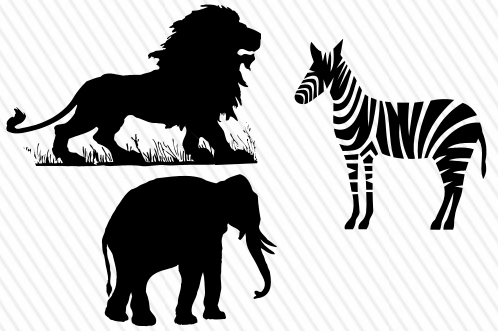




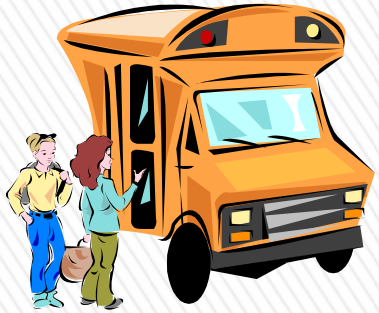
$2 \times 2 = 4$

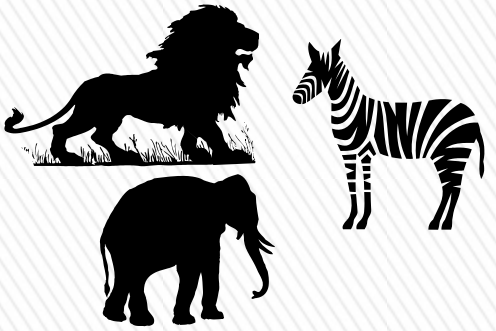
$3 \times 5 = 15$



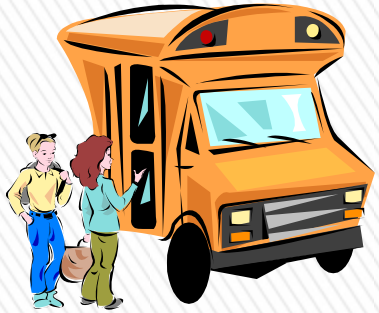


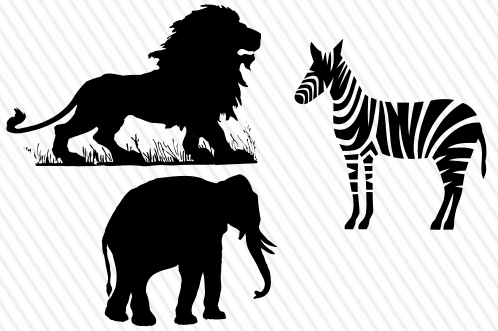
$$7\overline{)19}\quad 2$$





$$
\begin{array}{r}
2 \\
7\overline{)19} \\
-14 \\
\hline
5
\end{array}
$$

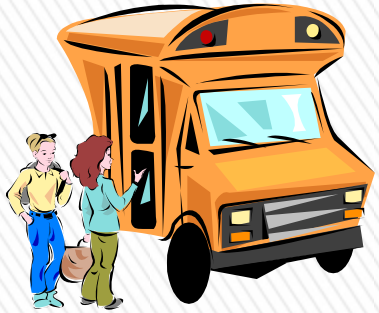


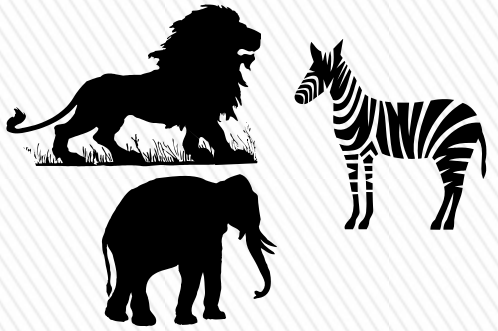


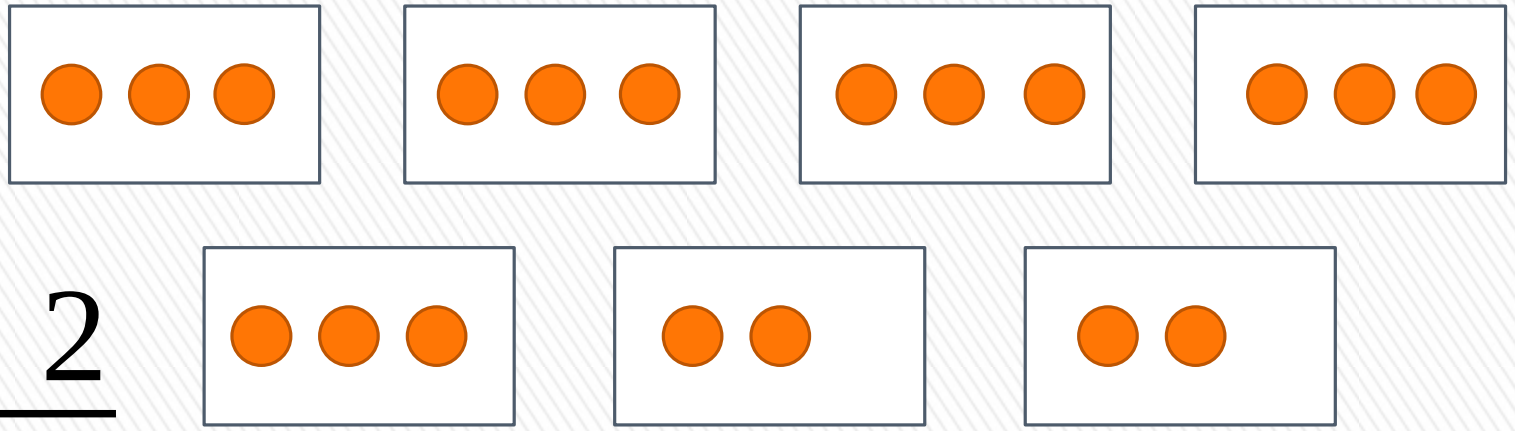
What does the 2 represent?

$$
\begin{array}{r}
2 \\
7\overline{)19} \\
-14 \\
\hline
5
\end{array}
$$

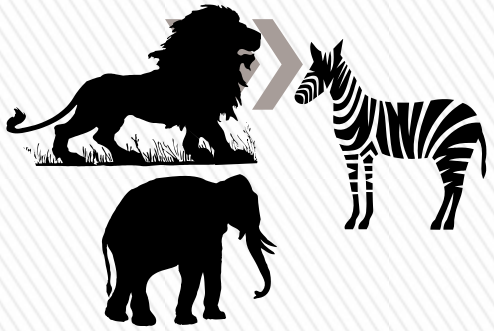
What does the 5 represent?



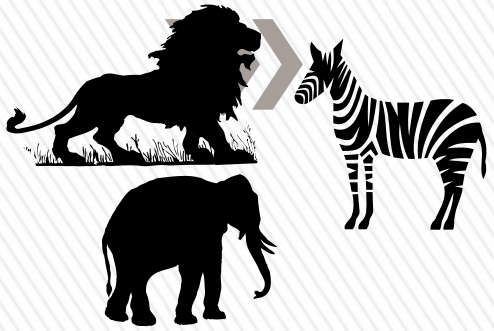




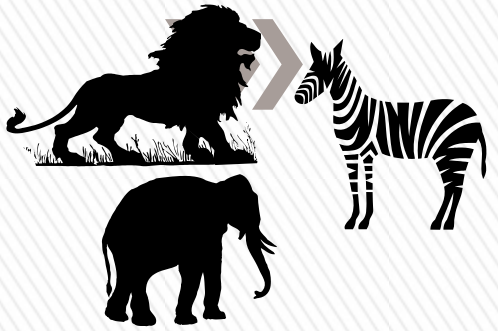
$$
\begin{array}{r}
2 \\
7\overline{)19} \\
-14 \\
\hline
5
\end{array}
$$



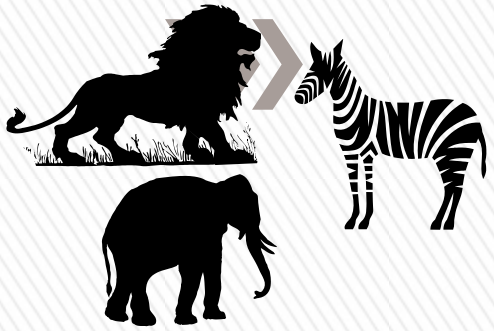
2 to a seat	Students	3 to a seat	Students	Total
5	10	2	6	16



2 to a seat	Students	3 to a seat	Students	Total
5	10	2	6	16
4	8	3	9	17



2 to a seat	Students	3 to a seat	Students	Total
5	10	2	6	16
4	8	3	9	17
3	6	4	12	18



2 to a seat	Students	3 to a seat	Students	Total
5	10	2	6	16
4	8	3	9	17
3	6	4	12	18
2	4	5	15	19

x = # of seats of students sitting 2 to a seat

y = # of seats of students sitting 3 to a seat

$$x + y = 7$$

$$2x + 3y = 19$$

$$x + y = 7$$

$$x + 5 = 7$$

$$-2x + -2y = -14$$

$$2x + 3y = 19$$

$$y = 5$$

$$x = 2$$

4 students will sit 2 to a seat.
15 students will sit 3 to a seat.

- Persevere
- Make sense of problems

Practice Standard #1

- Make sense of numbers in problems
- Use coherent representations of problems

Practice Standard #2

- Construct viable arguments
- Critique reasoning of others

Practice Standard #3

- Model with mathematics
- Real-world applications

Practice Standard #4

» Use appropriate tools strategically

Practice Standard #5

- Communicate precisely in mathematics
- Academic vocabulary

Practice Standard #6

» Look for and make use of structure

Practice Standard #7

» Look for and express regularity in repeated reasoning.

Practice Standard #8

- Homework Process
  - If your child is having problems with the homework:
    - Ask questions……what do you remember?
    - How do you think you would solve this?
    - What have you done before that can help you with this?

    - Then have your child write out his/her thinking.
    - What he/she tried first, second, etc.
    - Send the written process attached to the homework.
    - The teacher will accept it for credit.

HOMEWORK