
Tumyaraa Math
Session #1
23/24

Workshop Expectations:

1. Everyone participates (be present in the moment)
2. There are no wrong answers - just learning opportunities.
3. ASK QUESTIONS - WHY (FYI - I don't have all the answers)
4. Be Respectful
5. Have FUN!

Getting to Know You

Simple Easy!

Stand on the X and say:

Hi my name is _____.

My favorite color is _____.

And my favorite snack/candy is _____.





Over All Objectives:

After these 5 days I want each student to:

- **Develop a deeper understanding of basic math skills:**
- **Become Lifelong Learners:**
- **Have Fun with MATH!**

Why Math?

Math underlies EVERYTHING in
life!



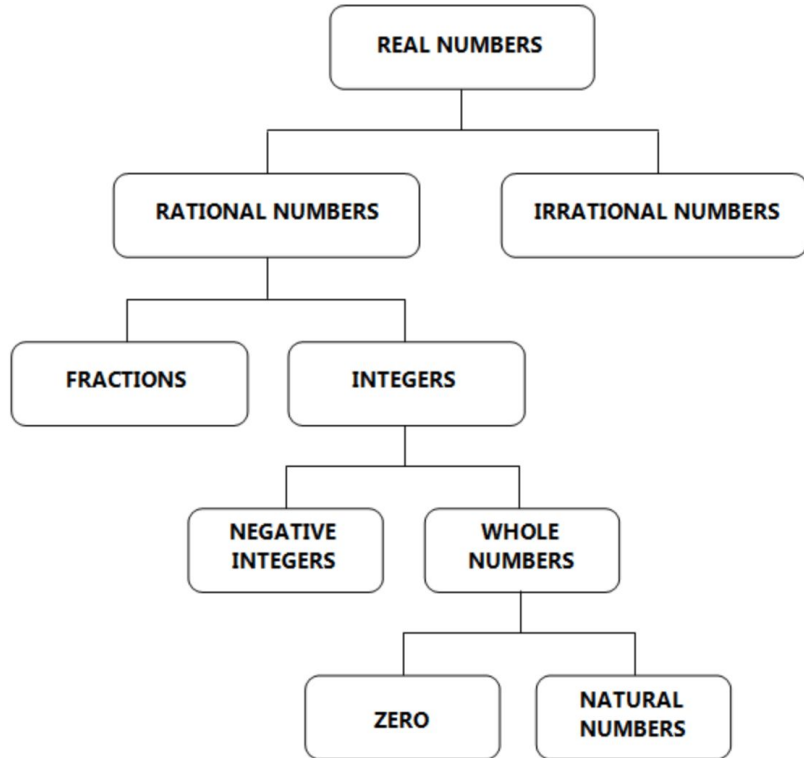
Math is a system of thinking, and every problem in the world benefits from thinking.

*Ben Orlin
Math w/ Bad Drawings*

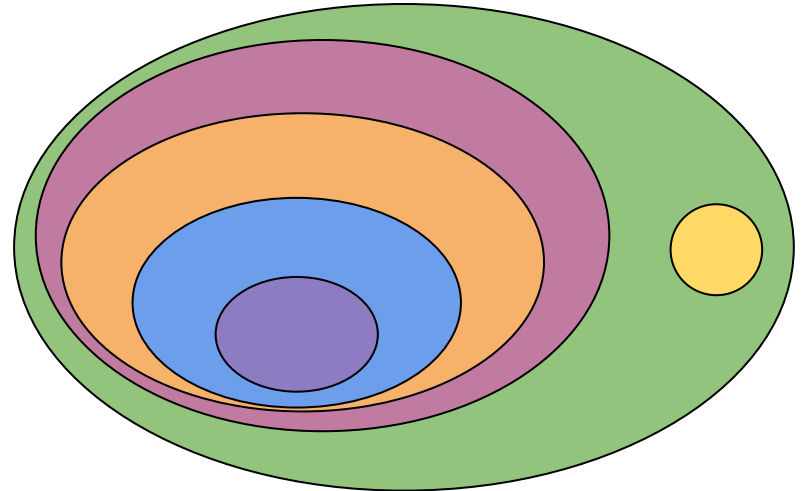
Numbers

Natural Numbers - Whole Numbers - Integers - Rational
Numbers - Irrational Numbers - Real Numbers

Numbers, Numbers, Numbers



Can you label the “circles?”



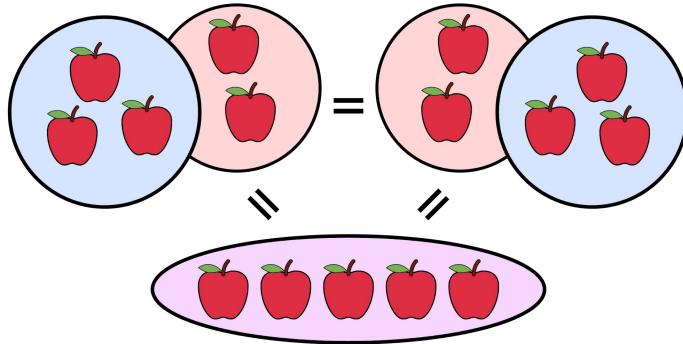
Algebraic Properties

Commutative Property of Addition, Commutative Property of Multiplication, Associative Property of Addition, Associative Property of Multiplication, Distributive Property

Commutative Property -

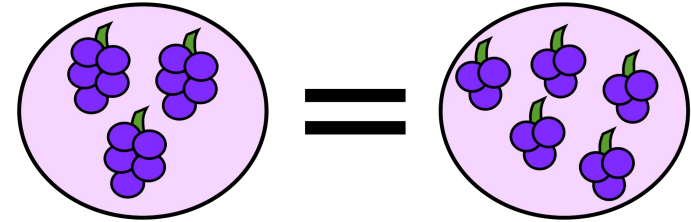
Commutative Property of Addition:

$$3 + 2 = 2 + 3$$



Commutative Property of Multiplication:

$$3 \times 5 = 5 \times 3$$



Associative Property -

Associative Property of
Addition:

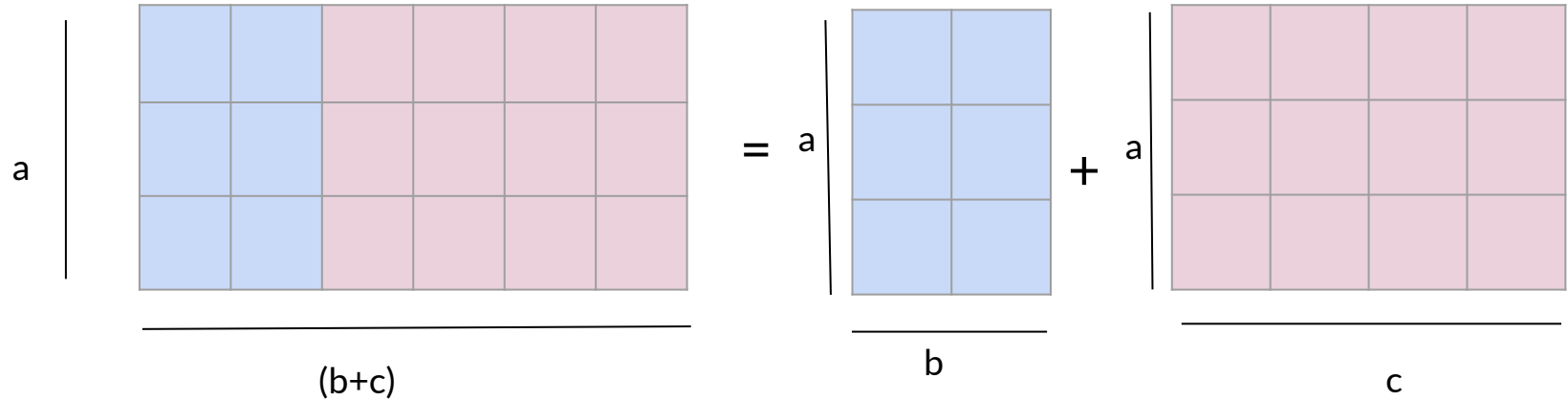
$$(a+b)+c = a+(b+c)$$

Associative Property of
Multiplication:

$$(axb)xc = ax(bxc)$$

Distributive Property -

$$a(b+c) = ab + ac$$



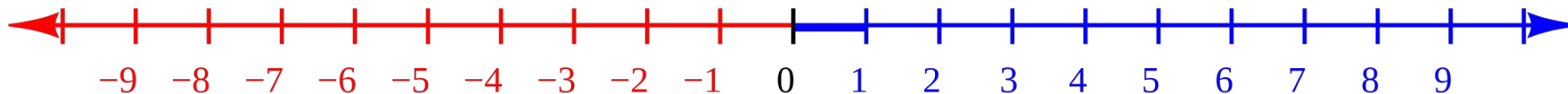
Positive and Negative Numbers

Chapters 4, 5, 6
Adding, Subtracting, Multiplying and Dividing

Real-world uses of positive and negative numbers:

Negative	Positive
Below-zero temperatures	Above-zero temperatures
<i>Withdrawals</i> from a bank account	<i>Credit</i> to a bank account
<i>Loss of</i> revenue	<i>Gain</i> in profits
<i>Spending</i> money	<i>Saving</i> money

Number Line

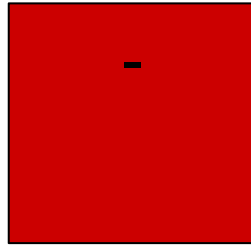
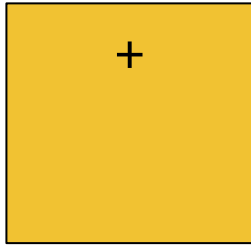


Absolute Value

- If the two integers have the same sign:
 - a. Add their absolute values.
 - b. Give the answer the same sign as the two original integers.
- If the two integers have different signs:
 - a. Subtract the lesser absolute value from the greater absolute value.
 - b. Give the answer the same sign as the integer with the greater absolute value
 - c.



Positive and Negative Numbers (+, -, x, /)



ZERO PAIR

$$(+3) + (-3) = 0$$

$$(-4) + (+4) = 0$$

$$(-100) + (+100) = 0$$

Positive and Negative Numbers (+ , - , x , /)

You Teach!

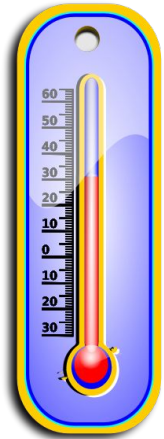
- Partner A - Method #1
- Partner B - Method #2

Chapter 4 (p.24)

- Read, study, understand your method
 - Write 3 practice problems
- Close your book and teach your partner
 - Ask your “student” to complete the 3 practice problems using the method you taught them.

Positive and Negative Numbers (+ , - , x , /)

- The temperature in Bethel was 10° in the afternoon. By night time, the temperature had decreased by 15° . What was temperature at night?
- Which method are **YOU** going to use?



Positive and Negative Numbers and multiplication:

Google - Why a negative times a negative is a positive:

[Why a negative times a negative is a positive \(video\) | Khan Academy](#)

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Order of Operation

Please, Excuse, My Dear, Aunt Sally

Order of Operations:

The Order of Operations are the rules that tells us the sequence in which we should solve an expression with multiple operations.

Please ()

Excuse x^e

My Dear $\times /$

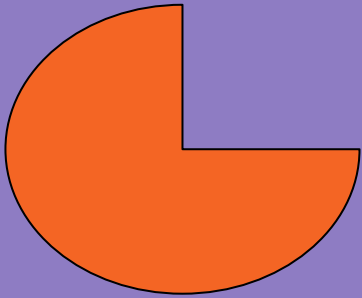


Aunt Sally $+ -$



$$\begin{aligned} & 8(2-3)^3 + 2^4 \\ &= 8(-1)^3 + 2^4 \\ &= 8 \times (-1) + 16 \\ &= -8 + 16 \\ &= 8 \end{aligned}$$

Fractions



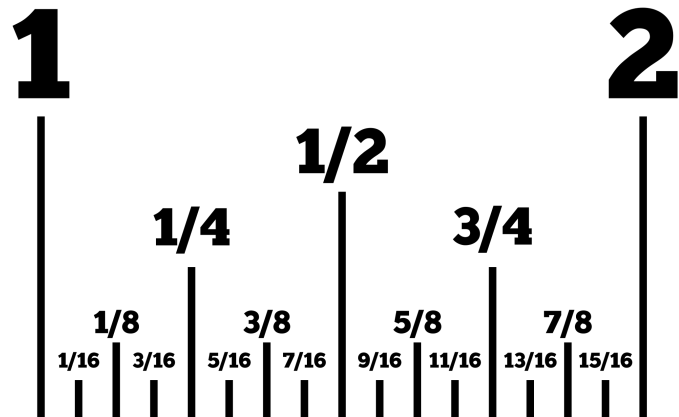
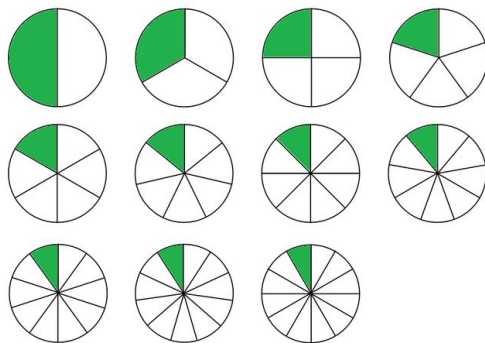
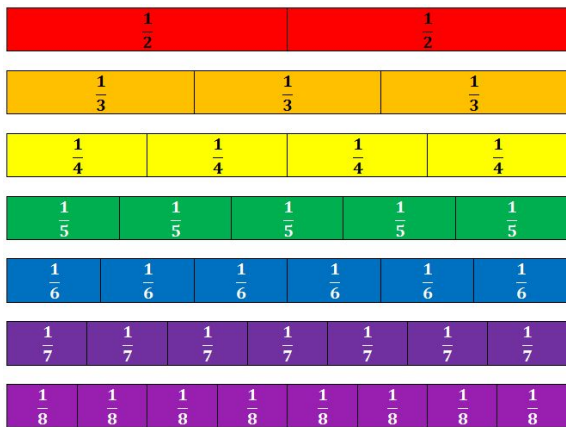
Equivalent Fractions, Ordering Fractions, Fractions - Percents
- Decimals and Everyday Life,

Equivalent Fractions

	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

$$1/4 = 2/8 = 3/12 = 5/20 = 6/24$$

Comparing & Ordering Fractions



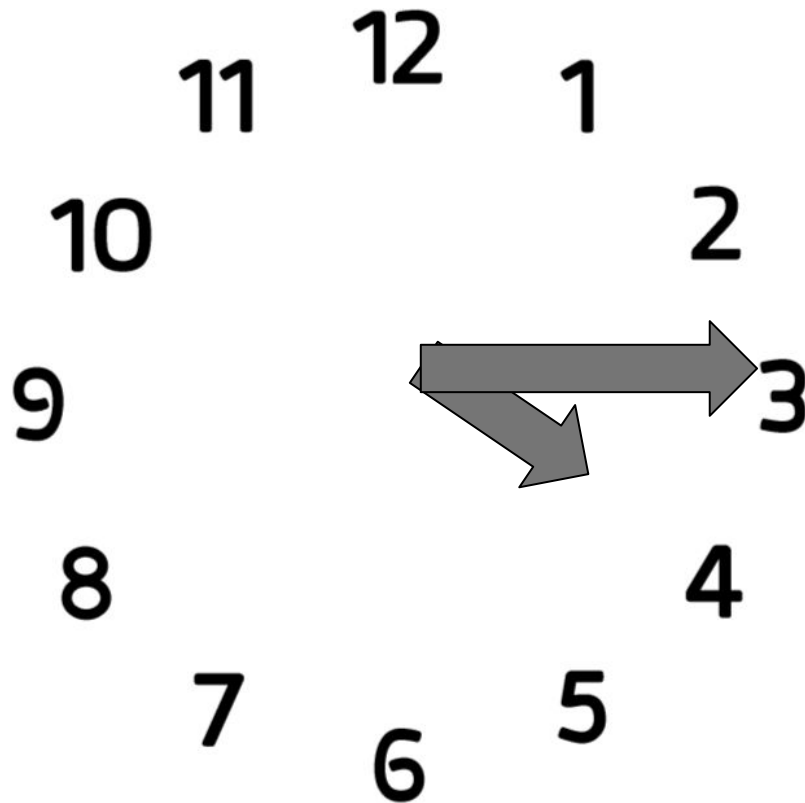
[Comparing Fraction Worksheet](#)

Money, Money, Money

- 100 pennies equal 1 dollar so a penny is $\frac{1}{100}$ of a dollar or \$0.01
- 10 dimes equal 1 dollar so a dime is $\frac{10}{100}$ of a dollar or $\frac{1}{10}$ of a dollar or \$0.10
- How many nickels in a dollar? So a nickel is ____ of a dollar or ____ of a dollar or \$_____

Time as a Fraction

- ❖ Quarter past 4
- ❖ It took a quarter of an hour
- ❖ Half an hour
- ❖ Quarter to 5



Statistics

Mean, Median, Mode & Range

Definitions - That you can remember!

MEAN - Mean Math Teacher Makes Me Do Math!



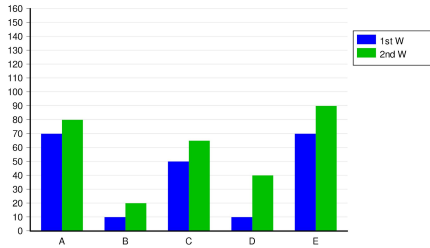
MEDIAN - Middle of the Road



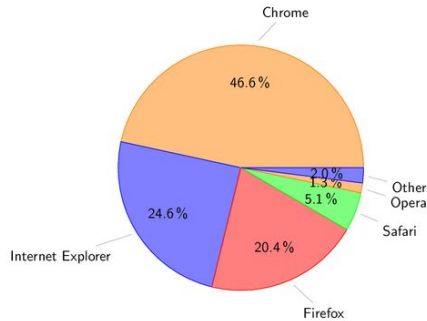
MODE - Ala mode is ICE CREAM! We always want the MOST ice cream!



Displaying your Data



Bar graphs allow us to compare how something changes over time or to compare groups of data whereas **pie graphs** show the relationship of parts to the whole.



Khan Academy

Start your learning where your at.
