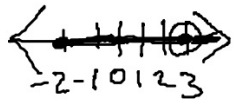


Create Your Own

- Create an interval and write it in all four representations with the following characteristics:
 - Bounded
 - Half open
 - Includes a negative number

$$[-2, 3)$$

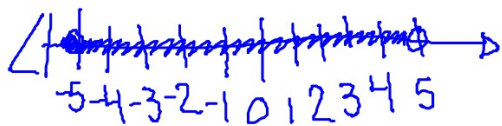


$$-2 \leq x < 3$$

x is less than 3 and
greater than or equal
to -2.



$$[-5, 5)$$



$$-5 \leq x < 5$$

The real number at least -5
and strictly less than 5 .

Create Your Own

- Create an interval and write it in all four representations with the following characteristics:
 - unbounded
 - closed
 - Includes a non-negative number

$$[3, \infty)$$

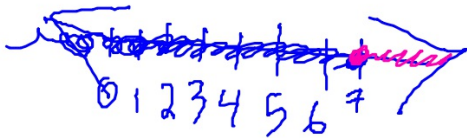


x is at least 3.

$$(-\infty, 7]$$

$$[7, \infty)$$

$x \geq 7$



$$x \leq 7$$

x is less than or equal
to 7.

Objectives

- Listen to and critique the justification of the evaluation of an expression for given values with cited properties of algebra using a graphic organizer.
 - a) Flow chart with word bank
 - b) Flow chart
 - c) Drawing a diagram and labeling steps
- **Success Criteria**
 - ~ Identify the commutative and associative property of addition and multiplication
 - ~Identify the identity and inverse property
 - ~Identify the distributive property
 - ~Describe closure with respect to the real number system
- **Vocabulary:** associative, commutative, identity, inverse, distributive, closure

Brainstorming

- Take 2 minutes to write down everything you know about the following words both in and out of math. If you don't know anything, make an educated guess.

associative, commutative, identity, inverse,
distributive, closure

Commutative Property

Let u , v , and w be real numbers, variables, or algebraic expressions.

Addition: $u + v = v + u$

Multiplication $uv = vu$

- 1.
- 2.
- 3.

Associative Property

grouping

Let u , v , and w be real numbers, variables, or algebraic expressions.

Addition: $(u + v) + w = u + (v + w)$

- 1. $(21 + \frac{1}{2}) + 3 = 21 + (\frac{1}{2} + 3)$
- 2. $(\theta + \frac{47}{2}) + n = \theta + (\frac{47}{2} + n)$
- 3. $(x + y) + z = x + (y + z)$

Multiplication: $(uv)w = u(vw)$

$$3(2 \cdot 7) = (3 \cdot 2) \cdot 7$$

$$3(2 \cdot 7) = (3 \cdot 7) \cdot 2$$

$$(2^3 \cdot a^2)e^7 = 2^3(a^2 \cdot e^7)$$