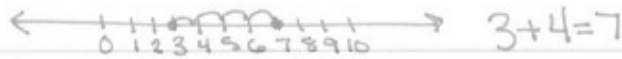


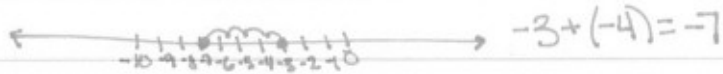
1.5

Adding Two Reals with the Same Sign.

ex) $3+4$.



ex) $-3+(-4)$



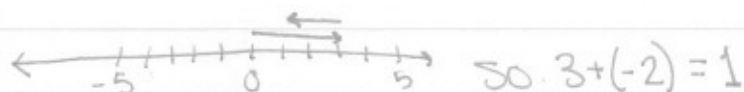
positive + positive = positive

negative + negative = negative

When adding 2 negatives, add the numbers (w/o negative sign) and then make the sum negative.

Adding Two Reals With Different Signs & Addition Properties

ex) $3 + (-2)$



$-2 + 3$

A number line with tick marks from -5 to 5. A point is marked at -2. A double-headed arrow is drawn from -2 to 1, representing an addition of 3. The text to the right says "so $-2 + 3 = 1$ ".

To add multiple numbers, take them 2 at a time and add the sums.

The Commutative Property of Addition

If a and b are reals then

$$a + b = b + a$$

(you can add in any order!)

ex) $2 + 3 = 5$ and $3 + 2 = 5$

The Associative Property of Addition

If $a, b,$ and c are reals then

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

(doesn't matter which I add first!)

ex) $(1 + 2) + 3 = 3 + 3 = 6$

$1 + (2 + 3) = 1 + 5 = 6$

Addition Property of Zero

If a is real then

$$a+0=a \text{ and } 0+a=a$$

(adding zero doesn't change anything)

Adding Opposites

If a is real then

$$a+(-a)=0$$