

Section 2.2 Addition of Real Numbers

You can add positive and negative number like they show in the book on page 72 or you can use my method. Please find a method that works for you.

AKA: Mr. Bixler's Theory on the violence in numbers:

The positive numbers are on one team and the negative numbers are on another team. When two players from opposite teams meet, they cancel each other out. The team with the most players wins.

Examples:

$-5 + 8$ The positives have more players so the answer will be positive. The next thing is to determine how many more players the positive team has. $8 - 5$ is 3 so the positive team has 3 more players.

Ans: 3 Therefore, the answer is positive 3.

$12 + (-7)$ The positive team wins by -5 ($12 - 7$).

Ans: 5 The answer is positive 5.

$(-3) + (-7)$ They are both on the same team so they join together. They are both negatives, so the answer is negative.

Ans: -10 $3 + 7$ is 10 so the answer is negative 10.

Properties of Addition

Commutative Property: The order in which you add does not change the result.

Examples: $a + b = b + a$ $3 + (-2) = (-2) + 3$
mnemonic: Think commute as in to travel back and forth

Associative Property: The way you group numbers when adding does not change the result.

Examples: $(a + b) + c = a + (b + c)$ $(-4 + 6) + 3 = -4 + (6 + 4)$
mnemonic: Think associate as in the people you associate with are part of your group

Identity Property: The sum of a number and 0 is the number.

Examples: $a + 0 = a$ $5 + 0 = 5$
mnemonic: Think identity as in who some one is. Adding nothing does not change it.

Property of Zero (Inverse Property): The sum of a number and its opposite is zero.

Examples: $a + (-a) = 0$ $5 + (-5) = 0$
mnemonic: Think about what you have to add to something to zero it out.