Continue

Definition for opposites in math

Given text here Positive numbers have an opposite value which is equal in magnitude but opposite in sign. The sum of a number and its opposite is zero. For example, the opposite of seven is -7, since they are equidistant from 0 but on opposite sides of the number line. Similarly, the opposite of a negative number is its positive counterpart. For instance, the opposite of -12 is 12, as they also have a sum of zero. The opposite number of any given number is its counterpart on the number line that shares the same distance from zero. For instance, the numbers -5 and 5 are opposites as they have the same absolute value, with |5|=|-5|=5. This means they are equidistant from the zero point in opposite directions. for -10 is equal to 10 because 10 + (-10) = 0. The additive inverse of a number is the value added to it to make the total zero. For example, the additive inverse of 3 is -3. In everyday life, we often find that adding an opposite number cancels out its original value. A number's additive inverse is also known as its inverse number. When multiplied by its additive inverse, both numbers sum up to zero. To convert a positive number into something like a negative value and vice versa, we can simply negate the original value. For instance, 1 + (-1) = 0, making -1 the additive inverse of 1. Similarly, 1 is the additive inverse of -1. The sum of two numbers equals zero when they are additive inverses of each other. For example, (1/2) + (-1/2) = 0, demonstrating that 1/2 and -1/2 are additive inverses. In a real-world scenario, imagine pouring hot water into a bucket containing room-temperature water, then adding cold water to balance it out. The same principle applies when finding an additive inverse for any number, whether it's real or complex. Alter the operation from subtracting to adding and flip the sign of one of the second numbers involved in the calculation. When performing this change on the expression -6 – (6), the result is -12, making -12 the correct answer. All visual aids used are generated using GeoGebra.