

Adding Integers

additive inverse: two numbers whose sum is zero

4 ex. -5, 5
3, -3

10, -10
-2, 2

Method ① Integer chips

● - positive 4 + -6 = -2
● - negative

The diagram shows 4 yellow chips and 6 red chips. Two pairs of (yellow, red) chips are crossed out with red lines, indicating they cancel out to zero. Two red chips remain, representing the final sum of -2.

- ● = 0
- ● = 0
- ● = 0
- ● = 0

● ● → what's left

⊗ what is left over is your answer

⊗ each ⁽⁺¹⁾ yellow chip and ⁽⁻¹⁾ red chip represent 1 - they are additive inverses.

⊗ you can match or pair up each red with a yellow - together they equal zero.

Method ② Heaps & Holes

4 + -6 = -2

The diagram shows a black square representing a unit. Below it, a yellow wavy line represents a 'heap' of 4 units, and a red wavy line represents a 'hole' of 6 units. Two pairs of (heap, hole) are crossed out with red lines, leaving 2 red wavy lines (holes) remaining.


∩ = heap (positive)
∪ = hole (negative)

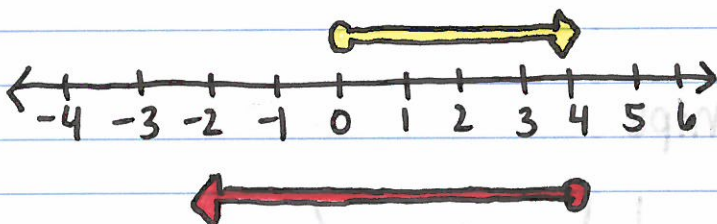


↔
2 holes left over

a heap ∩ (+1) + a hole ∪ (-1) = 0
 ⊗ these are additive inverses.

Method ③ Number Line

$$4 + -6 = -2$$




Positive 4 is 4 steps to the RIGHT →.
From that spot, we move 6 steps to the LEFT ←