

Subtracting Integers

additive inverse: two numbers whose sum is zero

4 ex. $6, -6$

$8, -8$

$4, -4$

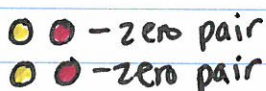
$3, -3$

Method ① Integer Chips ○ - positive ● - negative



$$4 - 6 = -2$$

We have 4 positives. We need to take away (subtract) 6 positives. We don't have 6 to take away, so we have to add zero pairs (○ + ● = zero pair)



Now we can take 6 away

● ● → what's left
⊕ what's left over is your answer

Method ② Heaps & Holes

⌒ = heap (positive)

∪ = hole (negative)

$$4 - 6 = -2$$

a heap and a hole = 0

⊕ these are a zero pair



↖ We have 4 heaps. We need to take away (subtract 6 positives) but we don't have 6. We have to add zero pairs.



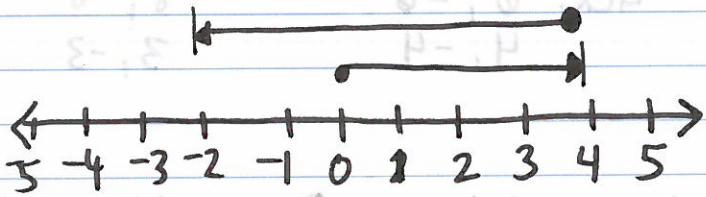
↖ Now we can take away 6 positives.

∪ ∪ ← we are left with two holes (-2)

Method ③ Number Line

$$4 - 6 = -2$$

Start at 0.
 Move right 4.
 To subtract 6,
 move left 6.



Visual representation of the number line method using counters. It shows a horizontal line with a vertical bar in the middle representing 0. To the right of 0, there are four yellow circles representing positive units. To the left of 0, there are six red circles representing negative units. Three pairs of red and yellow circles are shown being crossed out, representing the removal of positive units to reach the final result of two red circles (negative two).

Method ③ Heaps & Holes

Visual representation of the 'Heaps & Holes' method. It shows a horizontal line with a vertical bar in the middle representing 0. To the right of 0, there are four yellow circles representing positive units. To the left of 0, there are six red circles representing negative units. Three pairs of red and yellow circles are shown being crossed out, representing the removal of positive units to reach the final result of two red circles (negative two).