

Subtraction of integers

1. If the sum of two integers is zero, then one integer is the additive inverse of the other.

Example: $35 + (-35) = 0$

35 is the additive inverse of -35. -35 is the additive inverse of 35.

2. The subtraction of an integer is the same as the addition of its additive inverse.

Example: a) $3 - 7 = 3 + (-7)$

$$= -4$$

$$\text{b) } -30 - 14 = -30 + (-14)$$

$$= -44$$

$$\text{c) } 25 - (-20) = 25 + (+20)$$

$$= 45$$

3. When we are adding three or more positive and negative integers, we can rearrange the numbers so that the positive integers and the negative integers are grouped together.

Example: a) $5 - 6 + 10 = 5 + 10 - 6$

$$= 9$$

$$\text{b) } 3 - 4 + 7 - 8 + (-9) = 3 + 7 + [(-4) + (-8) + (-9)]$$

$$= 10 + (-21)$$

$$= -11$$
