

# Mathematics 7

## Subtracting Integers

### “Strategies”

The following examples present two possible strategies to finding the answers to the equations.

- 1.) Using integer chips (pogs)
- 2.) Converting subtraction to addition, then using a number line

- = Positive integer
- = Negative integer
- = Zero pair

**Listen to the teachers instructions, then:**

- 1.) Cancel the equivalent value of the second integer from the added zero pairs.
- 2.) Indicate the addition on the number line

**Example #1:** Positive (+) subtract a positive (+), when the first integer is larger.

$$(+7) - (+3) = \text{○ ○ ○ ○ ○ ○ ○} = (+4)$$

$$(+7) + (-3)$$


---

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

**Example #2:** Positive (+) subtract a positive (+) , when the first integer is smaller.

$$(+4) - (+6) = \text{○ ○ ○ ○} \quad \text{○ ○} = (-2)$$

● ●

$$(+4) + (-6)$$


---

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

**Example #3:** Negative (-) subtract a negative (-), when the first integer is larger.

$$(-8) - (-5) = \text{● ● ● ● ● ● ●} = (-3)$$

$$(-8) + (+5)$$


---

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

**Example #4:** Negative (-) subtract a negative (-), when the first integer is smaller.

$$(-2) - (-4) = \begin{array}{c} \bullet\bullet \quad \bullet\bullet \\ \circ\circ \end{array} = (+2)$$

$$(-2) + (+4) \quad \overline{-10 \ -9 \ -8 \ -7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ 0 \ +1 \ +2 \ +3 \ +4 \ +5 \ +6 \ +7 \ +8 \ +9 \ +10}$$

**Example #5:** Positive (+) subtract a negative (-), when the first integer is larger.

$$(+7) - (-5) = \begin{array}{c} \circ\circ\circ\circ\circ\circ\circ \quad \circ\circ\circ\circ\circ \\ \bullet\bullet\bullet\bullet\bullet \end{array} = (+12)$$

$$(+7) + (+5) \quad \overline{-7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ 0 \ +1 \ +2 \ +3 \ +4 \ +5 \ +6 \ +7 \ +8 \ +9 \ +10 \ +11 \ +12}$$

**Example #6:** Positive (+) subtract a negative (-), when the first integer is smaller.

$$(+3) - (-4) = \begin{array}{c} \circ\circ\circ \quad \circ\circ\circ\circ \\ \bullet\bullet\bullet\bullet \end{array} = (+7)$$

$$(+3) + (+4) \quad \overline{-10 \ -9 \ -8 \ -7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ 0 \ +1 \ +2 \ +3 \ +4 \ +5 \ +6 \ +7 \ +8 \ +9 \ +10}$$

**Example #7:** Negative (-) subtract a Positive (+), when the first integer is larger.

$$(-8) - (+5) = \begin{array}{c} \bullet\bullet\bullet\bullet\bullet\bullet\bullet\bullet \quad \bullet\bullet\bullet\bullet\bullet \\ \circ\circ\circ\circ\circ \end{array} = (-13)$$

$$(-8) + (-5) \quad \overline{-13 \ -12 \ -11 \ -10 \ -9 \ -8 \ -7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ 0 \ +1 \ +2 \ +3 \ +4 \ +5 \ +6 \ +7}$$

**Example #8:** Negative (-) subtract a positive (+), when the first integer is smaller.

$$(-5) - (+6) = \begin{array}{c} \bullet\bullet\bullet\bullet\bullet \quad \bullet\bullet\bullet\bullet\bullet\bullet \\ \circ\circ\circ\circ\circ\circ \end{array} = (-11)$$

$$(-5) + (-6) \quad \overline{-11 \ -10 \ -9 \ -8 \ -7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ 0 \ +1 \ +2 \ +3 \ +4 \ +5 \ +6 \ +7 \ +8 \ +9}$$