

# Math Practice Sheets

Counting Numbers (Z) Part I

Student Name

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Examples

Practice Questions

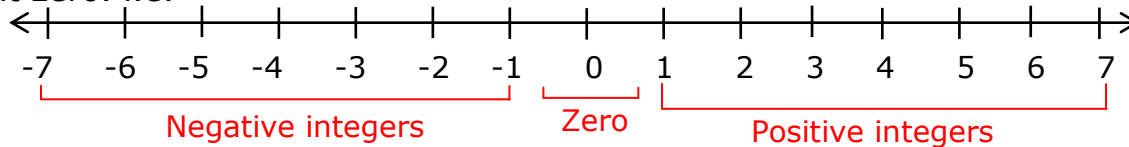
Extra Challenge Unit

**Example**

You know that  $6 - 4 = 2$  but what does  $4 - 6 = ?$

We have no number in the set of whole numbers,  $W = \{0, 1, 2, 3, \dots\}$  which is equal to  $4 - 6$ .

Therefore, we need to extend the whole number system to include the negative numbers, which are the image of positive numbers if a mirror is at zero. i.e.



So  $-1, -2, -3, -4, -5, -6,$  and  $-7$  are the image of  $1, 2, 3, 4, 5, 6,$  and  $7$  respectively.  $-1$  is the image of  $1$  and called the negative of  $1$ , the opposite of  $1$  or minus  $1$ .

This number system consisting of natural numbers, their negatives, and the number zero is called the set of integers. The set of integers is denoted by 'Z' and  $Z = \{\dots -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, \dots\}$

On the number line, the movement from left to the right is positive and movement from the right to left is negative.

**Exercise**

1. Write ( $\checkmark$ ) for true statements and ( $\times$ ) for false statements.

a) The temperature  $5^\circ\text{C}$  below zero is recorded as  $-5^\circ\text{C}$ .

b) Two meters above sea level is recorded as  $-2$  m.

c) A loss of 100 dollars is same as a gain of  $-100$  dollars.

d) A fall of  $-3^\circ\text{C}$  in temperature means a rise of  $3^\circ\text{C}$ .

e) A descent of  $-10$  m means an ascent of  $-10$  m.

f) A rotation of  $+30^\circ$  means a rotation of  $30^\circ$  counterclockwise.