


## Concept: The Meaning of Integers

Name:

### COMPUTER COMPONENT

**Instructions:** In  follow the **Content Menu** path:

**Whole Numbers and Integers > The Meaning of Integers**



Work through all Sub Lessons of the following Lessons **in order**:

- *Integers Around Us*
- *The Integer Line*
- *Opposite Integers*
- *Absolute Values*
- *Comparing Integers*
- *Example Questions*

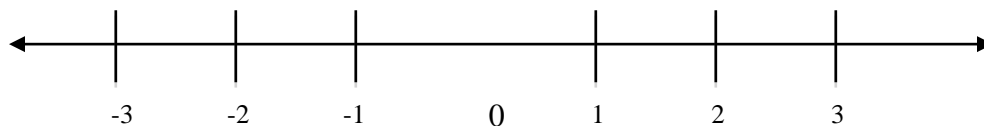


As you work through the computer exercises, you will be prompted to make notes in your notebook/math journal.

### SUMMARY

1. Fill in the blanks for the following:

- (a) *Positive* integers indicate temperatures **above** zero or height **above** sea level.
- (b) *Negative* integers indicate temperatures **below** zero or height **below** sea level.
- (c) On the Integer Line, *positive* integers are found to the **right** of zero, whereas *negative* integers are found to the **left** of zero.
- (d) Label the integer line below.



- (e) The integers 4 and -4 are called **opposite** integers, since they are the same distance away from zero.
- (f) The absolute value of a number is its distance away from **zero**.
- (g) -1 is to the right of -4 on the number line; therefore, **-1** is greater than **-4**. We use the symbol  $>$  to represent the words "greater than".
- (h) -3 is to the left of 1 on the number line; therefore, **-3** is less than **1**. We use the symbol  $<$  to represent the words "less than".

**OFF COMPUTER EXERCISES**

1. Indicate, by circling, whether the following integers are *positive* or *negative*.

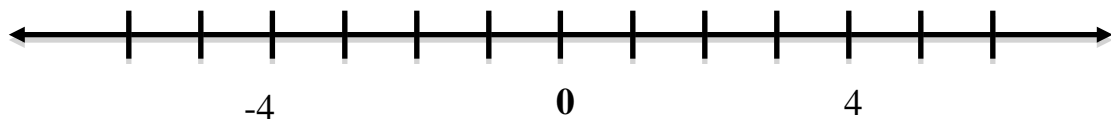
-1     positive     **negative**

5     **positive**     negative

10     **positive**     negative

-6     positive     **negative**

2. Label the integer 4 on the number line.



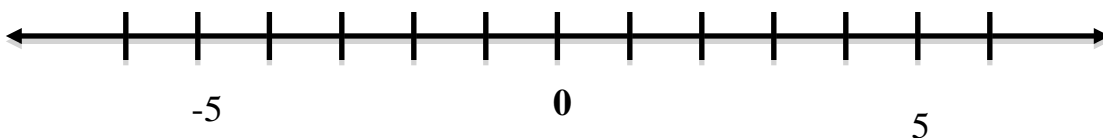
(a) Is 4 a positive or negative integer? **Positive.**

(b) Label the opposite integer for 4 on the number line and also write it in this space. **-4**

(c) What is the absolute value for the integer 4? **4.** Why? **The absolute value for 4 is '4' because the distance from zero is exactly 4 spaces.**

(d) Compare the integers 4 and -6. Which integer is greater? Why? **4 is greater because it is positive and it is located 4 spaces to the right of zero, where -6 is a negative integer and is located 6 spaces to the left of zero.**

3. Label the integer -5 on the number line.



(a) Is -5 a positive or negative integer? **Negative.**

(b) Label the opposite integer for -5 on the number line and also write it in this space. **5.**

(c) What is the absolute value for the integer -5? **5.** Why? **The absolute value for -5 is '5' because the distance from zero is exactly 5 spaces.**

(d) Compare the integers -5 and 3. Which integer is greater? Why? **3 is greater because it is positive and it is located 3 spaces to the right of zero, where -5 is a negative integer and is located 5 spaces to the left of zero.**

4. Fill in each blank with  $>$  (greater than) or  $<$  (less than).

(a)  $-5 < 1$

(b)  $6 > -1$

(c)  $-8 < -2$

(d)  $-3 > -5$

(e)  $-3 < 0$

(f)  $-1 > 9$

5. Translate the following into one mathematical statement.

Example:  $-1 < 2$  and  $-1 > -3$  changed into one mathematical statement becomes:  **$-3 < -1 < 2$**

(a)  $-4 < 5$  and  $-4 > -6$  becomes  $-6 < -4 < 5$

(b)  $1 < 6$  and  $-3 < 1$  becomes  $-3 < 1 < 6$

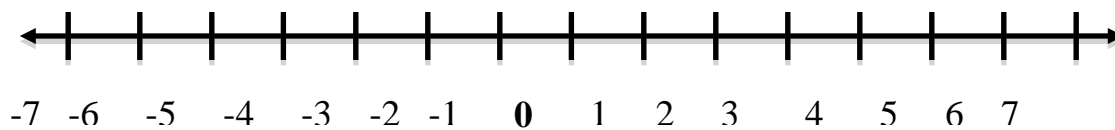
(c)  $0 < 2$  and  $0 > -4$  becomes  $-4 < 0 < 2$

6. Arrange the following temperatures from **smallest to greatest**.

$5^{\circ}\text{C}$     $10^{\circ}\text{C}$     $-3^{\circ}\text{C}$     $0^{\circ}\text{C}$     $40^{\circ}\text{C}$     $-40^{\circ}\text{C}$     $-12^{\circ}\text{C}$

$-40^{\circ}\text{C}$     $-12^{\circ}\text{C}$     $-3^{\circ}\text{C}$     $0^{\circ}\text{C}$     $5^{\circ}\text{C}$     $10^{\circ}\text{C}$     $40^{\circ}\text{C}$

7. (a) Create your own number line below.



(b) Use your number line to help you answer the following questions.

(i) Find 5 less than 1 : **-4.**

(ii) Find 4 less than 2: **-2.**

(iii) Find 2 less than -5: **-7.**

(iv) Find 3 less than  $-2$ : **-1**

8. Indicate, by circling, whether these statements are true or false.

(a)  $-5 > 8$

true

**false**

(b)  $|-3| = -3$

true

**false**

(c)  $0 > -6$

true

false

(d)  $|-5| = 5$

true

false

9. Represent each statement with an integer.

(a) 300m below sea level. **-300 m**

(b) Your brother made \$55 babysitting last week. + **\$55**

(c) You owe your Dad \$20. **-\$20**