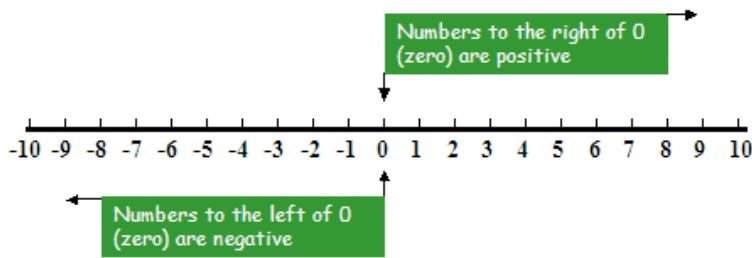


Integers – An Introduction

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What are integers?

[Integers](#) are a set of numbers that include all the natural numbers (0, 1, 2, 3, 4, and so on) and their negatives.



The sign of an integer is either positive (+) or negative (-), except zero, which has no sign.

Positive Integers

[Positive integers](#) are all the whole numbers greater than zero: 1, 2, 3, 4, 5 ... These numbers are to the right of zero on the number line.

Negative integers

[Negative integers](#) are all the whole numbers less than zero: -1, -2, -3, -4, -5 ... These numbers are to the left of zero on the number line.

Zero

The integer zero is neutral. It is neither positive nor negative.

Example: Write the opposite of each integer given below :

a) -12	+12
b) +21	-21
c) -17	+17
d) +9	-9
e) -11	+11

Example: Write the number that best represents each statement.

a) It is 6 degrees warmer than yesterday.

+6

b) I lost \$2:00 through a hole in my pocket.

-2

c) What is the absolute value of the number $|-915|$?

915

d) What is the absolute value of the number $|712|$?

712

Try this now:

Write the number that best represents each statement

i) The price was reduced by \$12.

ii) I improved my mark by 16.

iii) The building is 312 meters tall.

iv) My sister is 3 years younger than me.

v) We cut 9 inches off the timber plank.

vi) I have 2 arms.

vii) An elevator went down 10 floors. What integer describes the trip the elevator made?

viii) 10 degrees above zero

ix) A loss of 16 dollars

x) A gain of 5 points

(Answers: 1. i) -12 (ii) 16 (iii) 312 (iv) -3 (v) -9 (vi) 2 (vii) -10 (viii) +10 (ix) -16 (x) +5)

Absolute Value

The [absolute value](#) of an integer is the numerical value without regard to whether the sign is negative or positive. On a number line it is the distance between the number and zero.

The absolute value of -15 is 15. The absolute value of +15 is 15.

The symbol for absolute value is to enclose the number between vertical bars such as $|-20| = 20$ and read "The absolute value of -20 equals 20".

Example: Evaluate if $a = 4$, $b = 3$ and $c = -2$.

$$\begin{aligned} &|c| + b \\ &= |-2| + 3 \\ &= 2 + 3 = 5 \end{aligned}$$

Try this now:

Evaluate if a = 4, b = 3 and c = -2.

$$|a| + |b| - 3$$

(Answer: 4)

Now try it yourself! Should you still need any help,[click here](#) to schedule live online session with e Tutor!

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Reference Links :

- <http://en.wikipedia.org/wiki/Integer>
- http://en.wikipedia.org/wiki/Negative_number
- http://wiki.answers.com/Q/What_is_a_positive_integer
- http://en.wikipedia.org/wiki/Absolute_value

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