

Natural, Whole, & Integer Numbers

These three Number Nations are built upon each other.

Number

A number is a symbol for a quantity or value (SQV).

Symbols don't exist in nature. Humans create symbols to represent things that do exist, like trees.



This drawing is a *symbol* for an actual tree.

TREE

These letters are *symbols* for an actual tree.

1

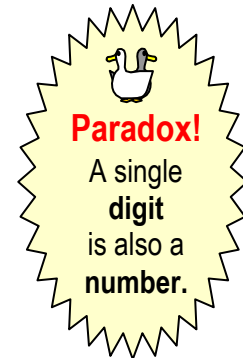
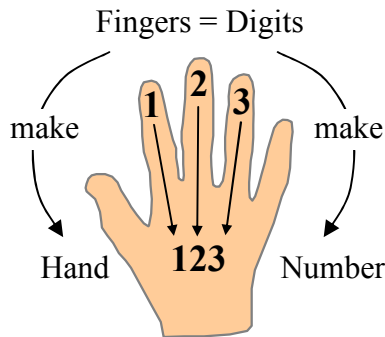
This number is a *symbol* for an actual quantity or value, like 1 tree or \$1.

Digit

A digit [DIH-jihht] is a single symbol. A number is made from one or more digits.

Fingers (and toes) are also called "digits." As fingers combine to make a hand, digits combine to make a number.

A *numeral* can refer to either a number or a digit whether written as a word (like "one") or a math symbol (like "1").



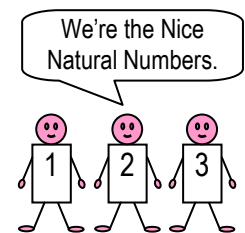
Natural Numbers (+)

Primitive peoples counted *natural* items, like sticks and stones.

Counting Numbers

1, 2, 3...

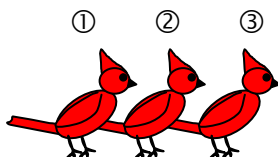
A 3-dot ellipsis means the numbers go on forever.



Cardinal Numbers

are another name for the Natural Numbers.

Imagine counting brilliant, red, Cardinal birds: 1, 2, 3.

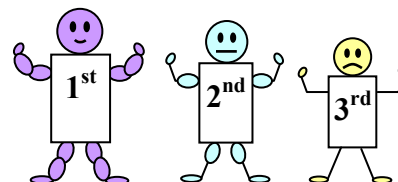


Cardinals are Counted!

Ordinal Numbers

are Natural Numbers ranked in order.

Imagine ranking weightlifters in a body-building contest: 1st, 2nd, 3rd place.

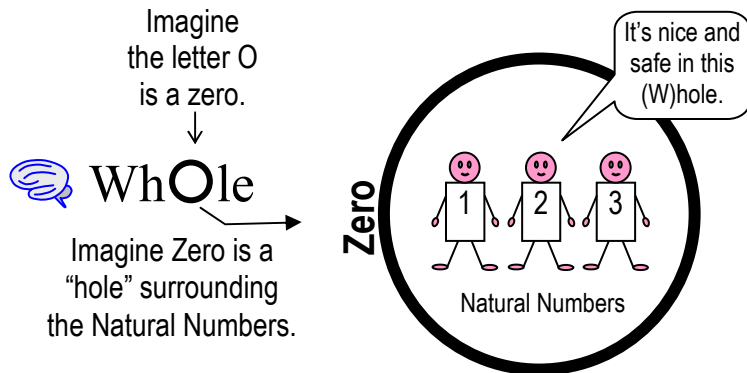


Ordinals are Ordered!

Whole Numbers (0 +)

Zero + Natural Numbers

0, 1, 2, 3...

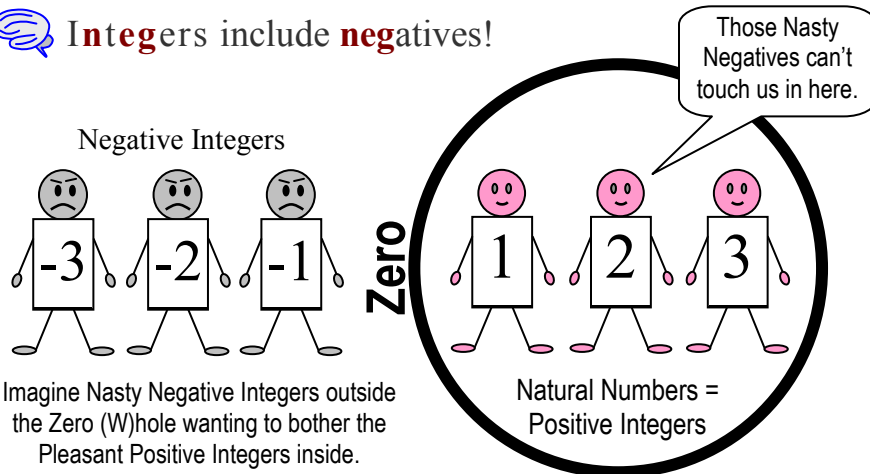


Integers (- 0 +)

Negatives of Natural Numbers + Whole Numbers

...-3, -2, -1, 0, 1, 2, 3...

Integers include **negatives!**



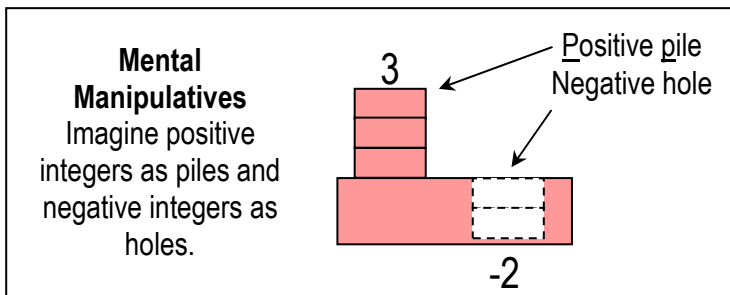
TRAPS

- Do *not* say IN-teh-gur with a hard 'g' as in grrr or IN-ter-gur with an extra 'r' in the middle.

It's pronounced IN-teh-jur with a soft 'j' as in injure and just one 'r' at the end.

- Do *not* equate Whole Numbers and Integers. Whole Numbers *never* include negatives.

- Natural, Whole, and Integer numbers *never* include fractions or decimals.





Your Turn!

Match the word with the letter of the example that best fits.

- | | |
|-------------------------|------------------------------------|
| 1) ___ Cardinal Numbers | a. ... -1, 0, 1 ... |
| 2) ___ Ordinal Numbers | b. 0, 1, 2 ... |
| 3) ___ Whole Numbers | c. 1st, 2nd, 3rd ... |
| 4) ___ Integers | d. Symbol for a quantity or value. |
| 5) ___ Number | e. A single numerical symbol. |
| 6) ___ Digit | f. 1, 2, 3 ... |

True or False

- _____ All Whole Numbers are Integers.
- _____ All Integers are Whole Numbers.
- _____ Ordinal Numbers are used for counting.
- _____ Integers can include fractions and decimals.
- _____ The Natural Numbers are the same as the Positive Integers.
- _____ Integer is pronounced IN-ter-gur.

Put an X in the box for each Nation the listed number belongs to.

	Natural	Whole	Integer
13) 1			
14) 0			
15) -1			

Answers: 1f, 2c, 3b, 4a, 5d, 6e, 7T, 8F, 9F, 10F, 11T, 12F, 13NWI, 14WI, 15I