

# MATHEMATICS TOPIC MAP

Grade Level: 7

## Key Concepts:

All of the operations performed on whole numbers can also be applied to integers.

Factors and multiples are useful in working with whole numbers, fractions, and integers.

Numerical expressions can be simplified using the order of operations

Very large and small numbers can be expressed using scientific notation.

We can use estimation to solve problems for which we do not need an exact answer. Estimation helps us evaluate the accuracy of our calculations.

## Topic: Number Sense and Operations

[PO Checklist](#)

### Enduring Understandings:

Numbers can be combined, separated and compared in a variety of ways depending on situations or problems we encounter. Different types of numbers (i.e. whole numbers, integers, fractions, and decimals) can be used depending on the situation which is being represented.

### Essential Questions:

How are integers useful? What are different ways integers can be combined and separated?  
Is the order that you perform the operations in a number sentence important? Why or why not?  
What are factors of a number? common factors? Is the number prime/composite/neither?  
Given a real world problem, how do you decide what operation, strategy, and/or procedure to use?  
What is my estimate? How do I know if my estimate is reasonable?  
What is the percent of a number? How does that relate to the fraction or decimal form?

### Examples:

Beth had \$22.30. She bought 4 bottles of water for \$0.65 each, including tax. How much money should Beth have left?

- A. \$2.40
- B. \$2.60
- C. \$19.70
- D. \$19.90

Which set below shows the integers in order from least to greatest?

- A.  $\{-2, -3, 2, 3\}$
- B.  $\{2, 3, -3, -2\}$
- C.  $\{-3, -2, 2, 3\}$
- D.  $\{3, 2, -2, -3\}$

The area of the shaded triangle in the diagram below is 1 square unit.



Which is the closest to the area of triangle ABC?

- A. 2 square units
- B. 3 square units
- C. 4 square units
- D. 5 square units

## Key Vocabulary:

Fractions  
Terminating decimal  
Repeating decimal  
Greatest common factor  
Least common multiple  
Signed number  
Integer  
Absolute value  
Number line  
Rational numbers (natural and whole numbers, integers)  
Operation/Order of Operations  
Properties (i.e. commutative, identity, inverse, distributive)  
Percent  
Standard notation  
Scientific notation  
Numerical expression  
Estimation  
Area  
Angle  
Circumference  
Reasonableness