

# Standards Chart:

## Diving Into the Number System

### Grades 6–8

Common Core State Standards for Mathematical Content The Number System	1. Absolute Value and Ordering Rational Numbers	2. Adding and Subtracting With Negative Numbers	3. Irrational Numbers
<b>Grade 6: 6.NS.5</b> Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	X		
<b>Grade 6: 6.NS.6</b> Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	X		
<b>Grade 6: 6.NS.7</b> Understand ordering and absolute value of rational numbers.	X		
<b>Grade 7: 7.NS.1</b> Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.		X	
<b>Grade 8: 8.NS.1</b> Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.			X
<b>Grade 8: 8.NS.2</b> Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\pi^2$ ).			X

(continued)

Common Core State Standards for Mathematical Content Geometry	1. Absolute Value and Ordering Rational Numbers	2. Adding and Subtracting With Negative Numbers	3. Irrational Numbers
<b>Grade 8: 8.G.7</b> Explain a proof of the Pythagorean Theorem and its converse.			X
<b>Grade 8: 8.G.9</b> Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.			X
Common Core State Standards for Mathematical Practice			
<b>MP1.</b> Make sense of problems and persevere in solving them.		X	X
<b>MP2.</b> Reason abstractly and quantitatively.		X	
<b>MP3.</b> Construct viable arguments and critique the reasoning of others.	X	X	
<b>MP4.</b> Model with mathematics.	X	X	X
<b>MP5.</b> Use appropriate tools strategically.	X		
<b>MP6.</b> Attend to precision.	X	X	X
<b>MP7.</b> Look for and make use of structure.			X
<b>MP8.</b> Look for and express regularity in repeated reasoning.			X
National Council of Teachers of Mathematics (NCTM) Standards Number and Operations			
<b>Grades 6–8:</b> Work flexibly with fractions, decimals, and percents to solve problems.	X	X	
<b>Grades 6–8:</b> Compare and order fractions, decimals, and percents efficiently and find their approximate locations on a number line.	X		
<b>Grades 6–8:</b> Develop meaning for integers and represent and compare quantities with them.	X	X	
National Council of Teachers of Mathematics (NCTM) Standards Geometry			
<b>Grades 6–8:</b> Understand relationships among the angles, side lengths, perimeters, areas, and volumes of similar objects.			X

**SOURCES:** Common Core State Standards (CCSS) for Mathematics: [corestandards.org/Math](http://corestandards.org/Math)

National Council of Teachers of Mathematics (NCTM) Standards: [nctm.org/standards](http://nctm.org/standards)