

Grade 7 Math C1 TB

<p>Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.</p>	
<p>Content Domain: The Number System</p>	
<p>Target B [m]: Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. (DOK 1, 2)</p> <p>Tasks for this target will require students to add and subtract rational numbers, including problems that connect these operations to distance between numbers on a number line and the concept of absolute value as it relates to distance on a number line. Other tasks will ask students to multiply and divide rational numbers and convert rational numbers to decimals.</p> <p>Tasks for Claim 3 related to this target will incorporate student understanding of zero as a divisor, quotients of integers being rational, and termination in 0s or repeating for decimal representation of rational numbers.</p> <p>Tasks for Claims 2 and 4 related to this target will integrate operations with rational numbers.</p>	
Standards:	7.NS.1, 7.NS.2, 7.NS.3
DOK Target(s):	1, 2
Evidence Required:	<ol style="list-style-type: none"> 1. The student adds or subtracts rational numbers. 2. The student models addition and subtraction of rational numbers on a number line. 3. The student multiplies and divides rational numbers. 4. The student converts from a fractional form of rational numbers to a decimal form of rational numbers and vice versa.
Allowable Item Types*:	SR, TE
Task Models:	<ol style="list-style-type: none"> 1. SR (DOK 1) Prompt Features: The student is prompted to identify the sum or difference of two or three rational numbers. Stimulus 1: The student is presented with two or three rational numbers written in the same form (fractions, terminating decimals, repeating decimals, percents, or integers). These numbers can be presented in horizontal or vertical form. Stimulus 2: The student is presented with a word problem involving the addition or subtraction of two or three rational numbers written in the same form. 2. SR (DOK 1, 2) Prompt Features: The student is prompted to identify a model on the number line that corresponds to given information. Or the student is prompted to identify the sum or difference of rational numbers that corresponds to given information. Stimulus 1: The student is presented with an expression involving the sum or difference of two rational numbers in the same form.

	<p>Stimulus 2: The student is presented with a model on a number line that shows the sum or difference of two rational numbers in the same form.</p> <p>Stimulus 3: The student is presented with a verbal description involving the distance q from p.</p> <p>2. TE (DOK 1, 2)</p> <p>Prompt Features 1: The student is prompted to model the sum or difference of two or three rational numbers on a number line.</p> <p>Stimulus: The student is presented with an expression involving the sum or difference of two or three rational numbers in the same form.</p> <p>Interaction: The student uses the drawing tool to draw rays and plot numbers on the given number line.</p> <p>Prompt Features 2: The student is prompted to plot two numbers with a sum of 0 on a given number line.</p> <p>Stimulus: The student is presented with a number line.</p> <p>Interaction: The student uses the drawing tool to plot numbers on the given number line.</p> <p>3. SR (DOK 1, 2)</p> <p>Prompt Features: The student is prompted to identify the product or quotient of rational numbers.</p> <p>Stimulus: The student is presented with two or three rational numbers written in the same form (fractions, terminating decimals, percents, or integers). These numbers can be presented in horizontal or vertical form.</p> <p>4. SR (DOK 1)</p> <p>Prompt Features: The student is prompted to identify a rational number that is equivalent to a given rational number presented in a different form.</p> <p>Stimulus 1: The student is presented with a rational number in the form p/q where p and q are integers and $q \neq 0$.</p> <p>Stimulus 2: The student is presented with a rational number in the form of a terminating or repeating decimal.</p>
Allowable Stimulus Materials:	vertical and horizontal number lines, complex fractions
Allowable Disciplinary Vocabulary:	rational numbers, absolute value, positive number, negative number, additive inverse, opposite, sum, difference, distance, terminating decimal, repeating decimal, signed number, integer
Allowable Tools:	
Target-Specific Attributes:	<p>Addition and subtraction will be limited to two or three rational numbers in the same form. Multiplication and division will be limited to two rational numbers in the same form.</p> <p>The emphasis of this target is on the understanding of operations with rational numbers more than on the calculations used to simplify numeric expressions. The emphasis of Claim 1 Target C is on the calculations used to simplify numeric expressions</p>

Grade 7 Mathematics Item Specification C1 TB



	involving rational numbers.
Key Nontargeted Constructs:	
Accessibility Concerns:	Students with challenges in fine motor skills may have difficulty with TE items.
Sample Items:	MAT.07.SR.1.000NS.B.163

*SR = selected response item; CR = constructed response item; TE = technology-enhanced item; ER = extended-response item; PT = performance task