

## Grade 6 Math C1 TF

<p><b>Claim 1:</b> Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.</p>	
Content Domain: <b>Expressions and Equations</b>	
<p><b>Target F [m]:</b> Reason about and solve one-variable equations and inequalities. (DOK 1, 2)</p> <p>Tasks for this target will ask students to solve and write one-variable equations and inequalities, some of which provide substitution of given numbers as an entry point to a solution.</p> <p>Claim 3 tasks will tap into students' ability to explain inequalities as a set of infinitely many solutions (some connecting the content of this target to 6.NS Target C).</p>	
Standards:	6.EE.5, 6.EE.6, 6.EE.7, 6.EE.8
DOK Target(s):	1, 2
Evidence Required:	<ol style="list-style-type: none"> <li>1. The student uses substitution in one-variable equations and inequalities.</li> <li>2. The student writes and solves one-variable equations and inequalities in real-world and mathematical problems.</li> <li>3. The student represents solutions of inequalities in real-world and mathematical problems on a number line.</li> </ol>
Allowable Item Types*:	SR, CR, TE
Task Models:	<ol style="list-style-type: none"> <li>1. SR (DOK 2) <b>Prompt Features:</b> The student is prompted to use substitution to identify the solution to one-variable equations and inequalities. <b>Stimulus:</b> The student is presented with a one-variable equation or inequality in a problem and/or a solution set.</li> <li>1. CR (DOK 2) <b>Prompt Features:</b> The student is prompted to show how substitution is used to solve one-variable equations and inequalities. <b>Stimulus:</b> The student is presented with a one-variable equation or inequality in a problem.</li> <li>2. SR (DOK 2) <b>Prompt Features:</b> The student is prompted to identify the one-variable equations or inequalities that correspond to verbal expressions in real-world and mathematical problems. Or the student is prompted identify the solution to one-variable equations and inequalities in real-world and mathematical problems. <b>Stimulus:</b> The student is presented with a verbal expression in a real-world or mathematical problem involving a one-variable equation of the form <math>x + p = q</math> or <math>px = q</math> or a one-variable inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math>.</li> </ol>

	<p>2. CR (DOK 2)  <b>Prompt Features:</b> The student is prompted to write and solve one-variable equations and inequalities in real-world and mathematical problems.  <b>Stimulus:</b> The student is presented with a verbal expression in a real-world or mathematical problem involving a one-variable equation of the form <math>x + p = q</math> or <math>px = q</math> or a one-variable inequality of the form <math>x &gt; c</math> or <math>x &lt; c</math>.</p> <p>3. SR (DOK 1, 2)  <b>Prompt Features:</b> The student is prompted to identify a number line that represents the solution to a one-variable inequality presented in a real-world or mathematical problem.  <b>Stimulus:</b> The student is presented with a one-variable inequality in a real-world or mathematical problem.</p> <p>3. TE (DOK 2)  <b>Prompt Features:</b> The student is prompted to represent the solution to a one-variable inequality presented in a real-world or mathematical problem on a number line.  <b>Stimulus:</b> The student is presented with a one-variable inequality in a real-world or mathematical problem.  <b>Interaction:</b> The student uses a graphing tool to represent the solution.</p>
Allowable Stimulus Materials:	
Allowable Disciplinary Vocabulary:	variable, substitution, equation, inequality, solution, solution set
Allowable Tools:	For some items, calculators may be used.
Target-Specific Attributes:	$p$ , $q$ , and $x$ must all represent nonnegative rational numbers when solving equations of the form $x + p = q$ and $px = q$
Key Nontargeted Constructs:	Parentheses when the student is applying the use of real-world problems. Properties of addition and multiplication.
Accessibility Concerns:	
Sample Items:	MAT.06.SR.1.000EE.F.072, MAT.06.SR.1.000EE.F.178, MAT.06.TE.1.000EE.F.170, MAT.06.TE.1.000EE.F.177

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