

<b>Claim 2: Problem Solving</b>	
"A distinctive feature of both single-step and multi-step items and tasks for Claim 2 is that they are "well-posed." That is, whether the problem deals with pure or applied contexts, the problem itself is completely formulated; the challenge is in identifying or using an appropriate solution path."	
<b>Gr 6-8 and 11:</b> 23-24% of Q's (56% of which will come from PT) – for both Claims 2 and 4	
<b>CCSS verbs associated with Claim 2:</b>	understand (often in conjunction with one or more other relevant verbs), solve, apply, describe, illustrate, interpret, and analyze
<b>Assessment Targets</b>	<b>Expectations</b>
<b>Target A: Apply mathematics to solve well-posed problems in pure mathematics and arising in everyday life, society, and the workplace. (DOK 2, 3)</b>	<p><b>Task Expectations:</b></p> <ul style="list-style-type: none"> <li>Mathematical information is presented in a table or graph or extracted from a context.</li> <li>Student is asked to solve well-posed problems in pure mathematics and arising in everyday life, society, and the workplace.</li> </ul> <p><b>Example</b> The \$1000 prize for a lottery is to be divided evenly among the winners. Initially there are <math>x</math> winners. However, one more winner comes forward, causing each winner to receive \$50 less.</p> <p><b>Part A</b> Enter an equation that represents the situation and can be used to solve for <math>x</math>, the initial number of winners. Enter your equation in the first response box.</p> <p><b>Part B</b> Enter the number of initial winners in the second response box.</p>
<b>Target B: Select and use appropriate tools strategically. (DOK 1, 2)</b>	<p><b>Task Expectations:</b></p> <ul style="list-style-type: none"> <li>Mathematical information is presented in a table or graph or extracted from a context.</li> <li>The student is asked to solve a problem that requires strategic use of tools or formulas.</li> </ul>
<b>Target C: Interpret results in the context of a situation. (DOK 2)</b>	<p><b>Task Expectations:</b></p> <ul style="list-style-type: none"> <li>Mathematical information is presented in a table or graph or extracted from a context.</li> <li>The student is asked to solve a problem that may require the integration of concepts and skills from multiple domains.</li> </ul> <p><b>Example</b> A factory makes 2,200 bottles every 5.5 hours. The factory makes bottles for 8 hours each work day. Enter a whole number to represent the fewest number of work days the factory will need to make 28,000 bottles.</p>
<b>Target D: Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables,</b>	<p><b>Task Expectations:</b></p> <ul style="list-style-type: none"> <li>Mathematical information is presented in a table or graph or extracted from a context.</li> <li>The student is asked to solve a problem that may require the integration of concepts and skills from</li> </ul>

<p><b>graphs, flowcharts, or formulas). (DOK 1, 2, 3)</b></p>	<p>multiple domains.</p> <p><b>Example:</b>  The students in Mr. Sanchez's class are converting distances measured in miles (<math>m</math>) to kilometers (<math>k</math>). Abby and Renato use the following methods to convert miles to kilometers.</p> <ul style="list-style-type: none"> <li>• Abby takes the number of miles, doubles it, then subtracts 20% of the result.</li> <li>• Renato first divides the number of miles by 5, then multiplies the result by 8.</li> </ul> <p>Which equation correctly shows why both their methods produce the same result?</p> <p>A. <math>2m - 0.20 = \frac{m}{5} \cdot 8</math>  B. <math>2m - 0.20(2m) = \frac{m}{5} \cdot 8</math>  C. <math>2m - 2.20m = \frac{m}{5} + 8\left(\frac{m}{5}\right)</math>  D. <math>0.20(2m) - 2m = \frac{m}{5} + 8\left(\frac{m}{5}\right)</math></p>
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In grades 6-7, Claim 2 tasks should be written to support three key themes:

- Solving problems with ratios, rates, and proportions
- Solving problems involving understanding of number systems
- Solving problems with expressions and equations

In grade 8, Claim 2 tasks should be written to support three key themes:

- Solving problems with expressions and equations
- Solving problems with functions
- Solving problems involving geometry

At least 80% of the items written to Claim 2 should primarily assess the standards and clusters listed in the tables that follow:

Grade 6	Grade 7	Grade 8
6.RP.A	7.RP.A	8.EE.B
6.NS.A	7.NS.A	8.EE.C
6.NS.C	7.EE.A	8.F.A
6.EE.A	7.EE.B	8.F.B*
6.EE.B	7.G.A*	8.G.A
6.EE.C	7.G.B*	8.G.B
6.G.A*		8.G.C*

High School	
N-Q.A	F-IF.A
A-SSE.A	F-IF.B
A-SSE.B	F-IF.C
A-CED.A	F-BF.A
A-REI.2	G-SRT.C
A-REI.B	S-ID.C
A-REI.C	S-CP.A
A-REI.D	

\* Denotes additional and supporting clusters