

Common Core State Standards for Mathematics

Domain: Reasoning with Equations and Inequalities

Reasoning to Solve Equations (A-REI.1-2)

High School

| Score 4.0 | In addition to Score 3.0, in-depth inferences and applications that go beyond instruction to the standard. The student will: <ul style="list-style-type: none"> give examples showing how extraneous solutions may arise (A-REI.2) solve complex rational and radical equations in one variable (A-REI.2) | Example Activities |
|------------------|--|---|
| | 3.5 In addition to score 3.0 performance, in-depth inferences and applications with partial success. | |
| Score 3.0 | The student will: <ul style="list-style-type: none"> solve simple rational and radical equations in one variable and identifies extraneous solutions (A-REI.2) The student exhibits no major errors or omissions. | Solve $x = \sqrt{x+7} + 5$ $x = \sqrt{x+7} + 5$ $x - 5 = \sqrt{x+7}$ $x^2 - 10x + 25 = x + 7$ $x^2 - 11x + 18 = 0$ $(x - 9)(x - 2) = 0$ $x - 9 = 0$ $x - 2 = 0$ $x = 9$ $x = 2$ Check both solutions to make sure they are not extraneous. One solution, 9, checks and the other solution, 2, does not check. Therefore, the solution to the equation is $x = \sqrt{x+7} + 5$ is 9. |
| | 2.5 No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content | |
| Score 2.0 | There are no major errors or omissions regarding the simpler details and processes as the student will: <ul style="list-style-type: none"> recognize or recall specific vocabulary, such as: <ul style="list-style-type: none"> extraneous solutions perform basic processes, such as: <ul style="list-style-type: none"> explain each step in solving a simple linear equation (A-REI.1) However, the student exhibits major errors or omissions regarding the more complex ideas and processes. | <u>Linear Equation Proofing</u> – Students will be given five linear equations with the correct solution worked out for them step by step. The students will be required to write a justification as to how or why each step of the solution was performed. |
| | 1.5 Partial knowledge of the 2.0 content but major errors or omissions regarding the 3.0 content | |
| Score 1.0 | With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes. | |
| | 0.5 With help, a partial understanding of the 2.0 content but not the 3.0 content | |
| Score 0.0 | Even with help, no understanding or skill demonstrated. | |