

Example Item 3D.2b (Grade 8)

Primary Target 3D (Content Domain EE), Secondary Target 1B (CCSS 8.EE.A), Tertiary Target 3C

Maggie claims that when you raise a whole number to a power, the result is always a greater number. That is, $s^n > s$. For example:

$$4^3 > 4$$

$$5^4 > 5$$

$$10^9 > 10$$

Maggie's claim is **not** true for all values of n and s . For what values of n and s is Maggie's claim true? Complete the inequalities.

$$s > [\quad]$$

$$n > [\quad]$$

Rubric: (1 point) The student enters the correct values in the response boxes (1 and 1).

Response Type: Equation/Numeric (two response boxes, label the boxes with $s >$ and $n >$, respectively.)

Target 3E: Distinguish correct reasoning from flawed reasoning**General Task Model Expectations for Target 3E**

- Items for this target should focus on the core mathematical work that students are doing around ratios and proportional relationships, the rational number system, and equations and expressions in grades 6-7 and equations, functions, and geometry in grade 8.
- The student is presented with valid or invalid reasoning and told it is flawed or asked to determine its validity. If the reasoning is flawed, the student identifies, explains, and/or corrects the error or flaw.
- The error should be more than just a computational error or an error in counting, and should reflect an actual error in reasoning.
- Analyzing faulty algorithms is acceptable so long as the algorithm is internally consistent and it isn't just a mechanical mistake executing a standard algorithm.
- Items have DOK Level 2, 3, 4.

Task Model 3E.1

- Some flawed reasoning or student work is presented and the student identifies and/or corrects the error or flaw.
- The student is presented with valid or invalid reasoning and asked to determine its validity. If the reasoning is flawed, the student will explain or correct the flaw.