

This key should allow you to understand why you choose the option you did (beyond just getting a question right or wrong). More instructions on how to use this key can be found [here](#).

If you have a suggestion to make the keys better, please fill out the short survey [here](#).

Note: This key is auto-generated and may contain issues and/or errors. The keys are reviewed after each exam to ensure grading is done accurately. If there are issues (like duplicate options), they are noted in the offline gradebook. The keys are a work-in-progress to give students as many resources to improve as possible.

1. Simplify the expression below and choose the interval the simplification is contained within.

$$1 - 9^2 + 3 \div 15 * 19 \div 13$$

The solution is -79.708 , which is option D.

- A. $[82.25, 82.38]$

82.292, which corresponds to an Order of Operations error: multiplying by negative before squaring. For example: $(-3)^2 \neq -3^2$

- B. $[-80.02, -79.9]$

-79.999 , which corresponds to an Order of Operations error: not reading left-to-right for multiplication/division.

- C. $[81.98, 82.12]$

82.001, which corresponds to two Order of Operations errors.

- D. $[-79.84, -79.56]$

* -79.708 , this is the correct option

- E. None of the above

You may have gotten this by making an unanticipated error. If you got a value that is not any of the others, please let the coordinator know so they can help you figure out what happened.

General Comment: While you may remember (or were taught) PEMDAS is done in order, it is actually done as P/E/MD/AS. When we are at MD or AS, we read left to right.
