

Essential Skills

Mathematics Problem Solving Tips

(Unofficial: to be used as a support for students as they learn to use the official scoring guide)

You may use manipulatives or a calculator to work on your problem.

To receive the highest score in each of the five areas, you will want to be certain your work **SHOWS** each of these parts of a successful solution.

(1) MAKING SENSE OF THE PROBLEM - “WHAT”

- I turned the word problem into numbers and/or symbols.
- The mathematics I used fits the problem.

(2) REPRESENTING AND SOLVING THE PROBLEM - “HOW”

- My mathematical problem solving skills/strategies fit the problem.
- I showed all my work (diagrams, pictures, models, numbers and/or symbols).

(3) COMMUNICATING AND REASONING - “CONNECTING PATH”

- The path leading to my complete solution has a no gaps for the reader to fill in.
- Labels are appropriate and accurate (e.g., square units vs units).

(4) ACCURACY - “CORRECTNESS”

- My answer matches what the problem was asking.
- My final answer is complete and justifiable.
- *I extended my work by asking a new questions leading to new problems.*

(5) REFLECTING AND EVALUATING - “DEFENSE”

- I stated the solution in the context of the problem (correct units).
- I showed that my interpretation of the problem, concepts, strategies, and calculations were reasonable and accurate.
- *If possible, I worked the entire problem a second way.*

RECAP: *Show your answer and all of your work so everything is clear to the readers.*