5 Mathematical Practices
for the NAEP Mathematics Assessment

The updated NAEP Mathematics Framework includes practices that will provide a deep understanding of what it means for students to be able to know and do mathematics, reflecting decades of efforts to more clearly specify processes like "higher-order thinking" and "mathematical reasoning." NAEP Mathematical Practices are the routines, norms, and processes needed to do the work of mathematics.

Representing

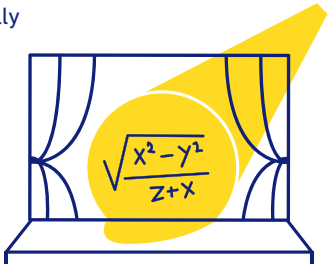
Recognizing, using, creating, interpreting, or translating among representations appropriate for the grade level and the mathematics being assessed.

Abstracting and Generalizing

Decontextualizing, identifying commonality across cases, items, problems, or representations, and extending one's reasoning to a broader domain appropriate for the grade level and the mathematics being assessed.

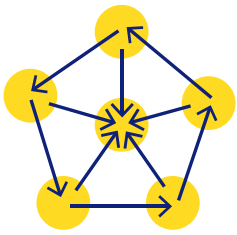
Justifying and Proving

Creating, evaluating, showing, or refuting mathematical claims in developmentally and mathematically appropriate ways.



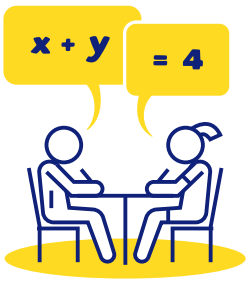
Mathematical Modeling

Making sense of a scenario, identifying a problem to be solved, mathematizing it, applying the mathematization to reach a solution, and checking the viability of the solution in developmentally and mathematically appropriate ways.



Collaborative Mathematics

The social enterprise of doing mathematics with others through discussion and collaborative problem solving whereby ideas are offered, debated, connected, and built-upon toward solution and shared understanding. Collaborative mathematics involves joint thinking among individuals toward the construction of a problem solution in developmentally and mathematically appropriate ways.



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