

## Characteristics of Exceptionally Skilled Math Students

**The characteristics listed below are meant to provide an initial set of criteria to consider when identifying mathematically gifted students. Few students will exhibit all characteristics and these characteristics may emerge at different times as the child develops.**

- Think logically and symbolically about quantitative, spatial, and abstract relationships.
- Perceive, visualize, and generalize numeric and non-numeric patterns and relationships.
- Reason analytically, deductively, and inductively.
- Reverse reasoning processes and switch methods in a flexible yet systematic manner.
- Work, communicate, and justify mathematical concepts in creative and intuitive ways, both verbally and in writing.
- Transfer learning to novel situations.
- Formulate probing mathematical questions that extend or apply a concept.
- Persist in his/her search for solutions to complex, “messy” or “ill-defined” tasks.
- Organize information and data in a variety of ways to disregard irrelevant data.
- Grasp mathematical concepts and strategies quickly, with good retention and to relate mathematical concepts within and across content areas of real-life situations.
- Solve problems with multiple and/or alternative solutions.
- Apply a more extensive and in-depth knowledge of a variety of major mathematical topics.
- Apply estimation and mental computation strategies