

Key Words and Phrases From Mathematics

Analysis	Application	Argumentation	Communication
Analysis Analyze situations Analyzing risk Break situations into cases Complicated situation Improve Interpret results Optimize Revision	Apply mathematics Apply mathematics to practical situations Context Contextualize Create Everyday situations Insights Real-world situations Situations Solve real-world problems Use results	Clarify arguments Compare arguments Construct arguments Decide if arguments are correct Decide if arguments make sense Determine domains to which an argument applies Draw conclusions Explain flaws in arguments Formulating Improve arguments Interpret results Justify conclusions Listen to arguments Read arguments Respond to others' arguments Validating Viable arguments	Ask questions Communicate precisely Clarify Describe Discussion Explain Express answers Labeling Reporting Specifying Summarize
Data	Decision making	Estimation	Knowledge
Control Data Identify important quantities Identifying variables Limitations Range Series Significant variables Units of measure	Acceptable Appropriate Choices Choosing Decisions Evaluate Helpful Relevant Sound decision	Approximations Assumptions Conjectures Estimation Explore truth of conjectures Predictions Use assumptions	Clear definitions Comprehension of concepts Comprehension of operations Comprehension of relations Concepts Conceptual understanding Deepen understanding Insight Meaning of quantities Meaning of symbols Realize Recognize Understand

Perspectives	Problems	Procedures	Reasoning
<p>Approaches of others Details Different approaches Oversight Overview Shift perspective Step back</p>	<p>Analyzing problems Coherent representation of problem Conceptualize a problem Design problems Entry points to a solution Make sense of problems Meaning of a problem Pose problems Problem situations Problem solving Represent problems Solution pathway Solutions Solving problems Understanding problems</p>	<p>Calculations General methods Formulas Performing operations Procedural fluency Shortcuts Strategic competence Strategies Use properties of operations and objects</p>	<p>Adaptive reasoning Critique others' reasoning Detect errors Distinguish correct logic Distinguish correct reasoning "Does this make sense?" Examine claims Logical progression of statements Reasonableness of results Reason about data Reason abstractly Reasoning and proof Reason quantitatively</p>
Relationships	Representation	Self-regulation	Tools
<p>Analogous problems Analyze relationships Collection Connections Consequences Compare Correspondence Look for regularity One quantity depends on another Pattern Proportional reasoning Quantitative relationships Relating Repeated Same Sort Structure Trends Use counterexamples</p>	<p>Choose symbols Concrete objects, drawings, diagrams Concrete objects or pictures Decontextualize (represent symbolically) Draw diagrams Equation to describe situation Flowcharts Graph data Manipulate referents/symbols Map relationships Modeling Representation Tables Visualize results</p>	<p>Accurate Change course if necessary Consistent Creativity Diligence Efficacy Efficient Evaluate progress Explore Flexible Identify resources Monitor progress Organized Persevere in solving problems Precise Productive disposition Purpose Reflect Strategic</p>	<p>Calculator Computer algebra system Dynamic geometry software Graphing calculator Pencil and paper Protractor Ruler Spreadsheet Statistical package Technological tools Technology</p>