

### Cognitive Demand Categories for Mathematics

B	C	D	E	F
Memorize Facts, Definitions, Formulas	Perform Procedures	Demonstrate Understanding of Mathematical Ideas	Conjecture, Analyze, Generalize, Prove	Solve Non-Routine Problems / Make Connections
<u>Recite basic mathematical facts</u>	<u>Use numbers to count, order, denote</u>	<u>Communicate mathematical ideas</u>	<u>Determine the truth of a mathematical pattern or proposition</u>	<u>Apply and adapt a variety of appropriate strategies to solve non-routine problems</u>
<u>Recall mathematics terms and definitions</u>	<u>Do computational procedures or algorithms</u>	<u>Use representations to model mathematical ideas</u>	<u>Write formal or informal proofs</u>	<u>Apply mathematics in contexts outside of mathematics</u>
<u>Recall formulas and computational procedures</u>	<u>Follow procedures / instructions</u>	<u>Explain findings and results from data analysis strategies</u>	<u>Recognize, generate or create patterns</u>	<u>Apply to real world situations</u>
_____	<u>Solve equations/formulas/routine word problems</u>	<u>Develop/explain relationships between concepts</u>	<u>Find a mathematical rule to generate a pattern or number sequence</u>	<u>Synthesize content and ideas from several sources</u>
_____	_____	_____	_____	_____
_____	<u>Organize or display data</u>	<u>Show or explain relationships between models, diagrams, and/or other representations</u>	<u>Make and investigate mathematical conjectures</u>	_____
_____	_____	_____	_____	_____
_____	<u>Read or produce graphs and tables</u>	_____	<u>Identify faulty arguments or misrepresentations of data</u>	_____
_____	_____	_____	_____	_____
_____	<u>Execute geometric constructions</u>	_____	<u>Reason inductively or deductively</u>	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____