

WVGSA Grade 8 Mathematics Blueprint



Calculator Section Blueprint

Table 1. Grade 8 Mathematics Blueprint by Domain and Cluster

Domain	Cluster	Min Items	Max Items
Expressions and Equations (EE) & Number System (NS)	Expressions and Equations & Number System	11	13
EE & NS	Know that there are numbers that are not rational and approximate them by rational numbers.	0	2
EE & NS	Work with radicals and integer exponents.	0	4
EE & NS	Understand the connections between proportional relationships, lines, and linear equations.	0	3
EE & NS	Analyze and solve linear equations, pairs of simultaneous linear equations, and linear inequalities in one variable.	2	6
Functions (F)	Functions	8	10
F	Define, evaluate, and compare functions.	2	6
F	Use functions to model relationships between quantities.	2	6
Geometry (G) & Statistics and Probability (SP)	Geometry & Statistics and Probability	13	15
G & SP	Understand congruence and similarity using physical models, transparencies, or geometry software.	1	6
G & SP	Understand and apply the Pythagorean Theorem.	0	4
G & SP	Solve real-world- and mathematical problems involving volume of cylinders, cones, and spheres.	0	2
G & SP	Investigate patterns of association in bivariate data.	1	6

Depth of Knowledge (DOK) Ranges

Table 2. DOK Item Distribution

DOK Level	Min Items	Max Items
DOK 1	5	9
DOK 2	17	22
DOK 3	5	9

Mathematical Habits of Mind (MHM) Subscores

Table 3. MHM Item Distribution

MHM Category	Min Items	Max Items
Modeling and Problem Solving	9	12
Use Mathematical Reasoning	8	11