

Table of Contents

Introduction	i-iv
What is <i>Engaging Mathematics, Volume I: Grade 8</i> ?	iii
What is found in an Engaging Mathematics TEKS-based activity?	iv
Number and operations	2-11
Sets of Real Numbers 8(2)(A).....	2
Irrational Numbers 8(2)(B).....	4
Scientific Notation, Activity 1 8(2)(C).....	6
Scientific Notation, Activity 2 8(2)(C).....	10
Proportionality	12-85
Proportionality and Similar Shapes 8(3)(A).....	12
Dilations on a Coordinate Plane, Activity 1 8(3)(B)	14
Dilations on a Coordinate Plane, Activity 2 8(3)(B)	16
Dilations on a Coordinate Plane, Activity 3 8(3)(C)	20
Dilations on a Coordinate Plane, Activity 4 8(3)(C)	22
Slope 8(4)(A)	26
Rate of Change, Slope, and y -intercept, Activity 1 8(4)(C)	28
Rate of Change, Slope, and y -intercept, Activity 2 8(4)(C)	30
Rate of Change, Slope, and y -intercept, Activity 3 8(4)(C)	32
Rate of Change, Slope, and y -intercept, Activity 4 8(4)(C)	34
Representations of Proportional Situations, Activity 1 8(5)(A)	36
Representations of Proportional Situations, Activity 2 8(5)(A)	38
Representations of Proportional Situations, Activity 3 8(5)(A)	42
Representations of Non-Proportional Situations, Activity 1 8(5)(B)	44
Representations of Non-Proportional Situations, Activity 2 8(5)(B)	48
Trend Lines, Activity 1 8(5)(D).....	50
Trend Lines, Activity 2 8(5)(D).....	52
Direct Variation 8(5)(E)	54
Representations of Linear Relationships, Activity 1 8(5)(F)	56
Representations of Linear Relationships, Activity 2 8(5)(F)	58
Representations of Linear Relationships, Activity 3 8(5)(F)	62
Representations of Linear Relationships, Activity 4 8(5)(F)	64
Representations of Linear Relationships, Activity 5 8(5)(F)	68
Functional Relationships, Activity 1 8(5)(G)	72
Functional Relationships, Activity 2 8(5)(G)	74
Proportional and Non-Proportional Relationships, Activity 1 8(5)(H).....	76
Proportional and Non-Proportional Relationships, Activity 2 8(5)(H).....	78
Equations that Model Linear Relationships, Activity 1 8(5)(I)	80
Equations that Model Linear Relationships, Activity 2 8(5)(I)	82
Equations that Model Linear Relationships, Activity 3 8(5)(I)	84
Expressions, equations, and relationships	86-137
Volume of a Cylinder 8(6)(A).....	86
Modeling the Pythagorean Theorem, Activity 1 8(6)(C)	88
Modeling the Pythagorean Theorem, Activity 2 8(6)(C)	90
Volume of Cylinders, Activity 1 8(7)(A)	92
Volume of Cylinders, Activity 2 8(7)(A)	94
Volume of Cylinders, Activity 3 8(7)(A)	96
Volume of Cones 8(7)(A).....	98
Volume of Spheres 1 8(7)(A).....	100
Surface Area, Activity 1 8(7)(B)	102

Surface Area, Activity 2 8(7)(B)	104
Surface Area, Activity 3 8(7)(B)	106
Surface Area, Activity 4 8(7)(B)	108
Application Problems Involving the Pythagorean Theorem, Activity 1 8(7)(C).....	110
Application Problems Involving the Pythagorean Theorem, Activity 2 8(7)(C).....	112
Modeling and Solving Equations 8(8)(C).....	114
Solving Equations, Activity 1 8(8)(C)	118
Solving Equations, Activity 2 8(8)(C)	120
Exterior Angles of Triangles, Activity 1 8(8)(D)	122
Exterior Angles of Triangles, Activity 2 8(8)(D)	126
Exterior Angles of Triangles, Activity 3 8(8)(D)	128
Parallel Lines and Transversals, Activity 1 8(8)(D).....	130
Parallel Lines and Transversals, Activity 2 8(8)(D).....	132
Parallel Lines and Transversals, Activity 3 8(8)(D).....	134
Intersecting Lines on a Graph 8(9)	136
Two-dimensional shapes	138–167
Properties of Orientation and Congruence - Rotations 8(10)(A)	138
Rotations 8(10)(C)	140
Translations, Activity 1 8(10)(C)	142
Translations, Activity 2 8(10)(C)	144
Translations, Activity 3 8(10)(C)	146
Reflections, Activity 1 8(10)(C)	148
Reflections, Activity 2 8(10)(C)	150
Transformations 8(10)(C).....	154
Effects of Dilations on Perimeter, Activity 1 8(10)(D)	156
Effects of Dilations on Perimeter, Activity 2 8(10)(D)	158
Effects of Dilations on Area, Activity 1 8(10)(D)	160
Effects of Dilations on Area, Activity 2 8(10)(D)	162
Effects of Dilations on Area, Activity 3 8(10)(D)	164
Effects of Dilations on Perimeter and Area 8(10)(D).....	166
Measurement and data	168–175
Scatterplots, Activity 1 8(11)(A)	168
Scatterplots, Activity 2 8(11)(A)	170
Scatterplots, Activity 3 8(11)(A)	172
Random Sampling 8(11)(C).....	174
Personal financial literacy	176–177
Compound Interest 8(12)(D)	176