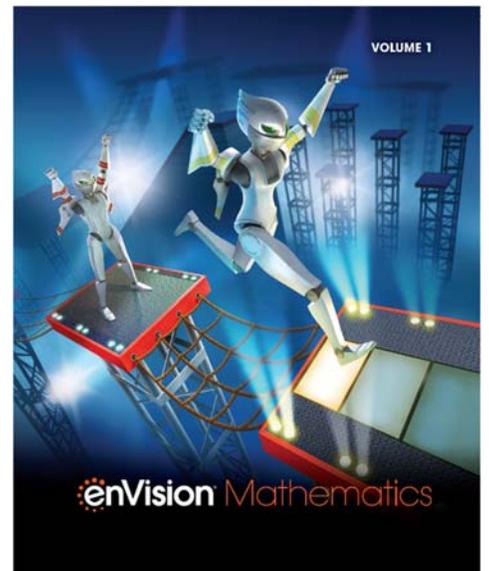
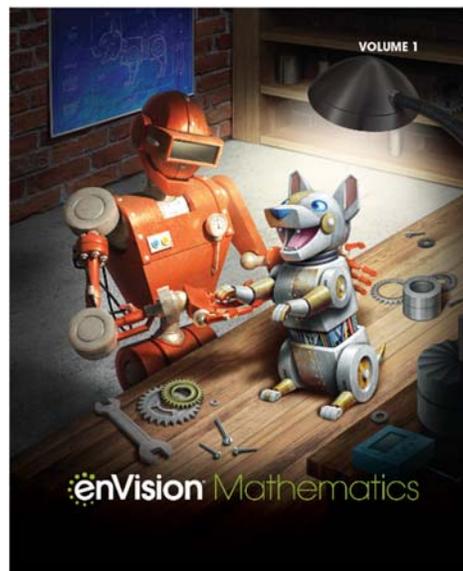
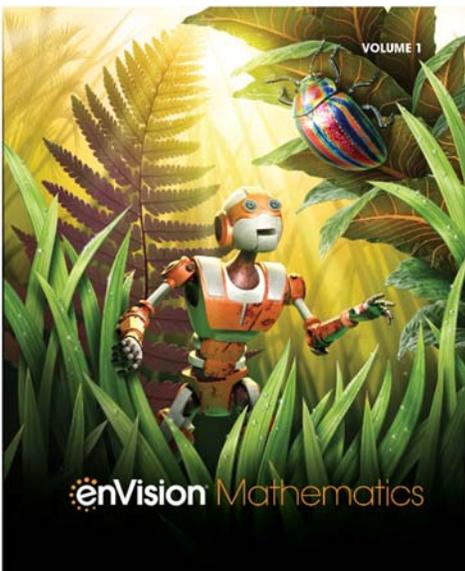


A Correlation of

enVision[®] Mathematics

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to the
**Pennsylvania Assessment Anchors and
Eligible Content
Grades 6 – 8**

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Introduction

The new enVision® Mathematics ©2021 is the latest offering of the nationally recognized Grades K– 12 series, created for print, digital, and blended instruction. Problem– Based Learning connects with Visual Learning to deep conceptual understanding. Interactive multimedia experiences engage learners in student choice and solving rich problems. Extensive customization and differentiation options empower every teacher and student.

UNDERSTANDING

A simple lesson design provides a clear, intentional pathway. Starting on a firm foundation of conceptual understanding, students can connect and apply math ideas in amazing ways. High– interest math projects invite all students to be active participants.

A simple lesson design provides a clear, intentional pathway.

STEP 1 Problem– Based Learning

STEP 2 Visual Learning

STEP 3 Assess and Differentiate

ASSESSMENT

The enVision Assessment Suite offers options to move students toward mastery of state standards while driving instructional differentiation.

DIAGNOSTIC Assessment

Reading Test, Diagnostic Test (Math Diagnosis and Intervention System), Review What You Know

FORMATIVE Assessment

SCOUT Observational Assessment used during Solve & Share, Do You Understand? And Convince Me!
Guide Practice, Quick Check

SUMMATIVE Assessment

Topic Assessments, Topic Performance Assessments, Examview Test Generator, Fluency Assessments,
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INSTRUCTIONAL SUPPORT

Gain a new perspective on your teaching with embedded strategies, methods, and a wide range of Professional Development opportunities in print and digital formats.

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Math background for every Topic and Lesson serves as an easy- to- access math methods course.

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|--|--|
| M06.A– N The Number System | |
| M06.A– N.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions. | |
| M06.A– N.1.1 Solve real– world and mathematical problems involving division of fractions. | |
| M06.A– N.1.1.1 Interpret and compute quotients of fractions (including mixed numbers), and solve word problems involving division of fractions by fractions. <i>Example 1: Given a story context for $(2/3) \div (3/4)$, explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = (a/b) \times (d/c) = ad/bc$.) <i>Example 2: How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi? Example 3: How many $2\ 1/4$- foot pieces can be cut from a $15\ 1/2$- foot board?</i></i> | SE: 33 – 38, 39 – 44, 45 – 50, 51 – 56, 57 – 60 TE: 33A – 38B, 39A – 44B, 45A – 50B, 51A – 56B, 57 – 60 |
| Reference: CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions. | |
| M06.A– N.2 Compute with multi– digit numbers and find common factors and multiples. | |
| M06.A– N.2.1 Compute with multi– digit numbers using the four arithmetic operations with or without a calculator. | |
| M06.A– N.2.1.1 Solve problems involving operations (+, –, ×, and ÷) with whole numbers, decimals (through thousandths), straight computation, or word problems. | SE: 9 – 14, 15 – 20, 21 – 26, 33 – 38, 39 – 44, 45 – 50, 51 – 56, 57 – 60 TE: 9A – 14B, 15A – 20B, 21A – 26B, 33A – 38B, 39A – 44B, 45A – 50B, 51A – 56B, 57 – 60 |
| Reference: CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers. | |
| M06.A– N.2.2 Apply number theory concepts (specifically, factors and multiples). | |
| M06.A– N.2.2.1 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. | SE: 129 – 136, 173 – 176 TE: 129A – 136B, 173 – 176 |
| M06.A– N.2.2.2 Apply the distributive property to express a sum of two whole numbers, 1 through 100, with a common factor as a multiple of a sum of two whole numbers with no common factor. <i>Example: Express $36 + 8$ as $4(9 + 2)$.</i> | SE: 137 – 142, 161 – 166, 167 – 172, 173 – 176 TE: 137A – 142B, 161A – 166B, 167A – 172B, 173 – 176 |

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| Reference: CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples. | |
| M06.A– N.3 Apply and extend previous understandings of numbers to the system of rational numbers. | |
| M06.A– N.3.1 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values and locations on the number line and coordinate plane. | |
| M06.A– N.3.1.1 Represent quantities in real– world contexts using positive and negative numbers, explaining the meaning of 0 in each situation (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge). | SE: 69 – 74, 111 – 114 TE: 69A – 74B, 111 – 114 |
| M06.A– N.3.1.2 Determine the opposite of a number and recognize that the opposite of the opposite of a number is the number itself (e.g., $-(-3) = 3$; 0 is its own opposite). | SE: 69 – 74, 75 – 80, 81 – 86, 111 – 114 TE: 69A – 74B, 75A – 80B, 81A – 86B, 111 – 114 |
| M06.A– N.3.1.3 Locate and plot integers and other rational numbers on a horizontal or vertical number line; locate and plot pairs of integers and other rational numbers on a coordinate plane. | SE: 69 – 74, 75 – 80, 81 – 86, 89 – 94, 99 – 104, 105 – 110, 111 – 114 TE: 69A – 74B, 75A – 80B, 81A – 86B, 89A – 94B, 99A – 104B, 105A – 110B, 111 – 114 |
| Reference: CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers. | |
| M06.A– N.3.2 Understand ordering and absolute value of rational numbers. | |
| M06.A– N.3.2.1 Write, interpret, and explain statements of order for rational numbers in real– world contexts. <i>Example: Write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C.</i> | SE: 75 – 80, 81 – 86, 111 – 114 TE: 75A – 80B, 81A – 86B, 111 – 114 |
| M06.A– N.3.2.2 Interpret the absolute value of a rational number as its distance from 0 on the number line and as a magnitude for a positive or negative quantity in a real– world situation. <i>Example: For an account balance of -30 dollars, write $-30 = 30$ to describe the size of the debt in dollars, and recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.</i> | SE: 81 – 86, 111 – 114 TE: 81A – 86B, 111 – 114 |
| M06.A– N.3.2.3 Solve real– world and mathematical problems by plotting points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. | SE: 89 – 94, 99 – 104, 105 – 110, 111 – 114, 419 – 424, 455 – 460 TE: 89A – 94B, 99A – 104B, 105A – 110B, 111 – 114, 419A – 424B, 455 – 460 |

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| Reference: CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers. | |
| M06.A– R Ratios and Proportional Relationships | |
| M06.A– R.1 Understand ratio concepts and use ratio reasoning to solve problems. | |
| M06.A– R.1.1 Represent and/or solve real world and mathematical problems using rates, ratios, and/or percents. | |
| M06.A– R.1.1.1 Use ratio language and notation (such as 3 to 4, 3:4, 3/4) to describe a ratio relationship between two quantities. <i>Example 1: “The ratio of girls to boys in a math class is 2:3 because for every 2 girls there are 3 boys.” Example 2: “For every five votes candidate A received, candidate B received four votes.”</i> | SE: 267 – 272, 273 – 278, 279 – 284, 285 – 290, 293 – 298, 299 – 304, 305 – 310, 315 – 320, 321 – 326, 327 – 332, 333 – 338 TE: 267A – 272B, 273A – 278B, 279A – 284B, 285A – 290B, 293A – 298B, 299A – 304B, 305A – 310B, 315A– 320B, 321A– 326B, 327A– 332B, 333 – 338 |
| M06.A– R.1.1.2 Find the unit rate a/b associated with a ratio $a:b$ (with $b \neq 0$) and use rate language in the context of a ratio relationship. <i>Example 1: “This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar.” Example 2: “We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger.”</i> | SE: 293 – 298, 299 – 304, 305 – 310, 333 – 338 TE: 293A – 298B, 299A – 304B, 305A – 310B, 333 – 338 |
| M06.A– R.1.1.3 Construct tables of equivalent ratios relating quantities with whole– number measurements, find missing values in the tables, and/or plot the pairs of values on the coordinate plane. Use tables to compare ratios. | SE: 273 – 278, 279 – 284, 285 – 290, 333 – 338 TE: 273A – 278B, 279A – 284B, 285A – 290B, 333 – 338 |
| M06.A– R.1.1.4 Solve unit rate problems including those involving unit pricing and constant speed. <i>Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?</i> | SE: 293 – 298, 299 – 304, 305 – 310, 333 – 338 TE: 293A – 298B, 299A – 304B, 305A – 310B, 333 – 338 |
| M06.A– R.1.1.5 Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percentage. | SE: 347 – 352, 353 – 358, 359 – 364, 367 – 372, 373 – 378, 379 – 384, 389 – 392 TE: 347A – 352B, 353A – 358B, 359A – 364B, 367A – 372B, 373A – 378B, 379A – 384B, 389 – 392 |
| Reference: CC.2.1.6.D.1 Understand ratio concepts and use ratio reasoning to solve problems. | |
| M06.B– E Expressions and Equations | |
| M06.B– E.1 Apply and extend previous understandings of arithmetic to numerical and algebraic expressions. | |
| M06.B– E.1.1 Identify, write, and evaluate numerical and algebraic expressions. | |
| M06.B– E.1.1.1 Write and evaluate numerical expressions involving whole– number exponents. | SE: 123 – 128, 173 – 176 TE: 123A – 128B, 173 – 176 |

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| M06.B– E.1.1.2 Write algebraic expressions from verbal descriptions. <i>Example: Express the description “five less than twice a number” as $2y - 5$.</i> | SE: 145 – 150, 151 – 156, 161 – 166, 167 – 172, 173 – 176 TE: 145A – 150B, 151A – 156B, 161A – 166B, 167A – 172B, 173 – 176 |
| M06.B– E.1.1.3 Identify parts of an expression using mathematical terms (e.g., sum, term, product, factor, quotient, coefficient, quantity). <i>Example: Describe the expression $2(8 + 7)$ as a product of two factors.</i> | SE: 137 – 142, 145 – 150, 151 – 156, 161 – 166, 167 – 172, 173 – 176 TE: 137A – 142B, 145A – 150B, 151A – 156B, 161A – 166B, 167A – 172B, 173 – 176 |
| M06.B– E.1.1.4 Evaluate expressions at specific values of their variables, including expressions that arise from formulas used in real– world problems. <i>Example: Evaluate the expression $b^2 - 5$ when $b = 4$.</i> | SE: 151 – 156, 173 – 176 TE: 151A – 156B, 173 – 176 |
| M06.B– E.1.1.5 Apply the properties of operations to generate equivalent expressions. <i>Example 1: Apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$. Example 2: Apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$. Example 3: Apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.</i> | SE: 161 – 166, 167 – 172, 173 – 176, 191 – 196, 253 – 258 TE: 161A – 166B, 167A – 172B, 173 – 176, 191A – 196B, 253 – 258 |
| Reference: CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions. | |
| M06.B– E.2 Interpret and solve one– variable equations and inequalities. | |
| M06.B– E.2.1 Create, solve, and interpret one variable equations or inequalities in real– world and mathematical problems. | |
| M06.B– E.2.1.1 Use substitution to determine whether a given number in a specified set makes an equation or inequality true. | SE: 185 – 190, 219 – 224, 225 – 230, 253 – 258 TE: 185A – 190B, 219A – 224B, 225A – 230B, 253 – 258 |
| M06.B– E.2.1.2 Write algebraic expressions to represent real– world or mathematical problems. | SE: 145 – 150, 173 – 176, 197 – 202, 203 – 208, 209 – 216, 219 – 224, 253 – 258 TE: 145A – 150B, 173 – 176, 197A – 202B, 203A – 208B, 209A – 216B, 219A – 224B, 253 – 258 |
| M06.B– E.2.1.3 Solve real– world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p , q , and x are all non– negative rational numbers. | SE: 197 – 202, 203 – 208, 209 – 216, 253 – 258 TE: 203A–208B, 209A–216B, 219A–224B, 253 – 258 |
| M06.B– E.2.1.4 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a | SE: 219 – 224, 225 – 230, 253–258 |

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| real– world or mathematical problem and/or represent solutions of such inequalities on number lines. | TE: 219A–224B, 225A–230B, 253 – 258 |
| Reference: CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply to real- world and mathematical problems. | |
| M06.B– E.3 Represent and analyze quantitative relationships between dependent and independent variables. | |
| M06.B– E.3.1 Use variables to represent two quantities in a real– world problem that change in relationship to one another. | |
| M06.B– E.3.1.1 Write an equation to express the relationship between the dependent and independent variables. <i>Example: In a problem involving motion at a constant speed of 65 units, write the equation $d = 65t$ to represent the relationship between distance and time.</i> | SE: 235 – 240, 241 – 246, 247 – 252, 253–258 TE: 253 – 258, 241A–246B, 247A–252B, 253 – 258 |
| M06.B– E.3.1.2 Analyze the relationship between the dependent and independent variables using graphs and tables and/or relate these to an equation. | SE: 235 – 240, 241 – 246, 247 – 252, 253–258 TE: 253 – 258, 241A–246B, 247A–252B, 253 – 258 |
| Reference: CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables. | |
| M06.C– G Geometry | |
| M06.C– G.1 Solve real– world and mathematical problems involving area, surface area, and volume. | |
| M06.C– G.1.1 Find area, surface area, and volume by applying formulas and using various strategies. | |
| M06.C– G.1.1.1 Determine the area of triangles and special quadrilaterals (i.e., square, rectangle, parallelogram, rhombus, and trapezoid). Formulas will be provided. | SE: 401 – 406, 407 – 412, 413 – 418, 455–460 TE: 401A–406B, 407A–412B, 413A–413B, 455 – 460 |
| M06.C– G.1.1.2 Determine the area of irregular or compound polygons. <i>Example: Find the area of a room in the shape of an irregular polygon by composing and/or decomposing.</i> | SE: 419 – 424, 455–460 TE: 419A–424B, 455 – 460 |
| M06.C– G.1.1.3 Determine the volume of right rectangular prisms with fractional edge lengths. Formulas will be provided. | SE: 449 – 454, 455 – 460, TE: 449A–454B, 455 – 460 |
| M06.C– G.1.1.4 Given coordinates for the vertices of a polygon in the plane, use the coordinates to find side lengths and area of the polygon (limited to triangles and special quadrilaterals). Formulas will be provided. | SE: 105 – 110, 111 – 114, 419 – 424, 455–460 TE: 105A–110B, 111 – 114, 419A–424B, 455 – 460 |
| M06.C– G.1.1.5 Represent three– dimensional figures using nets made of rectangles and triangles. | SE: 427 – 432, 455–460 TE: 427A–432B, 455 – 460 |

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| M06.C– G.1.1.6 Determine the surface area of triangular and rectangular prisms (including cubes). Formulas will be provided. | SE: 437 – 442, 443 – 448, 455–460 TE: 437A–442B, 443A–448B, 455 – 460 |
| Reference: CC.2.3.6.A.1 Apply appropriate tools to solve real– world and mathematical problems involving area, surface area, and volume. | |
| M06.D– S Statistics and Probability | |
| M06.D– S.1 Demonstrate understanding of statistical variability by summarizing and describing distributions. | |
| M06.D– S.1.1 Display, analyze, and summarize numerical data sets in relation to their context. | |
| M06.D– S.1.1.1 Display numerical data in plots on a number line, including line plots, histograms, and box– and whisker plots. | SE: 469 – 474, 483 – 488, 489 – 494, 497 – 502, 509 – 514, 519–522 TE: 469A–474B, 483A–488B, 489A–494B, 497A–502B, 509A–514B, 519 – 522 |
| M06.D– S.1.1.2 Determine quantitative measures of center (e.g., median, mean, mode) and variability e.g., range, interquartile range, mean absolute deviation). | SE: 475 – 482, 497 – 502, 503 – 508, 509 – 514, 519–522 TE: 475A–482B, 497A–502B, 503A–508B, 509A–514B, 519 – 522 |
| M06.D– S.1.1.3 Describe any overall pattern and any deviations from the overall pattern with reference to the context in which the data were gathered. | SE: 483 – 488, 489 – 494, 497 – 502, 503 – 508, 509 – 514, 519–522 TE: 483A–488B, 489A–494B, 497A–502B, 503A–508B, 509A–514B, 519 – 522 |
| M06.D– S.1.1.4 Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. | SE: 503 – 508, 509 – 514, 519–522 TE: 503A–508B, 509A–514B, 519 – 522 |
| Reference: CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. | |

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|---|--|
| M07.A– N The Number System | |
| M07.A– N.1 Apply and extend previous understandings of operations to add, subtract, multiply, and divide rational numbers. | |
| M07.A– N.1.1 Solve real– world and mathematical problems involving the four operations with rational numbers. | |
| M07.A– N.1.1.1 Apply properties of operations to add and subtract rational numbers, including real– world contexts. | SE: 21 – 26, 27 – 32, 33 – 38, 65 – 70, 75–80 TE: 21A–26B, 27A–32B, 33A–38B, 65A–70B, 75 – 80 |
| M07.A– N.1.1.2 Represent addition and subtraction on a horizontal or vertical number line. | SE: 9– 14, 75–80 TE: 9A–14B, 75 – 80 |
| M07.A– N.1.1.3 Apply properties of operations to multiply and divide rational numbers, including real– world contexts; demonstrate that the decimal form of a rational number terminates or eventually repeats. | SE: 41 – 46, 47 – 52, 53 – 58, 59 – 64, 65 – 70, 75 – 80 TE: 41A–46B, 47A–52B, 53A–58B, 59A–64B, 65A–70B, 75 – 80 |
| Reference: CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers. | |
| M07.A– R Ratios and Proportional Relationships | |
| M07.A– R.1 Demonstrate an understanding of proportional relationships. | |
| M07.A– R.1.1 Analyze, recognize, and represent proportional relationships and use them to solve real– world and mathematical problems. | |
| M07.A– R.1.1.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. <i>Example: If a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction $1/2 \div 1/4$ miles per hour, equivalently 2 miles per hour.</i> | SE: 89 – 94, 95 – 100, 131–134 TE: 89A–94B, 95A–100B, 131 – 134 |
| M07.A– R.1.1.2 Determine whether two quantities are proportionally related (e.g., by testing for equivalent ratios in a table, graphing on a coordinate plane and observing whether the graph is a straight line through the origin). | SE: 101 – 106, 119 – 124, 131 – 134, 143 – 148, 185–188 TE: 101A–106B, 119A–124B, 131 – 134, 143A–143B, 185 – 188 |
| M07.A– R.1.1.3 Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. | SE: 101 – 106, 119 – 124, 131 – 134, 143 – 148, 185 – 188, 323 – 330, 341 – 346, 357–360 TE: 101A–106B, 119A–124B, 131 – 134, 143A–143B, 185 – 188, 323A–330B, 341A–346B, 357 – 360 |

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| M07.A– R.1.1.4 Represent proportional relationships by equations. <i>Example: If total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$.</i> | SE: 107 – 112, 131 – 134, 149 – 154, 155 – 160, 185–188 TE: 107A–112B, 131 – 134, 149A–154B, 155A–160B, 185 – 188 |
| M07.A– R.1.1.5 Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$, where r is the unit rate. | SE: 119 – 124, 131 – 134, 143 – 148, 185 – 188 TE: 119A–124B, 131 – 134, 143A–143B, 185 – 188 |
| M07.A– R.1.1.6 Use proportional relationships to solve multi– step ratio and percent problems. <i>Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease.</i> | SE: 89 – 94, 95 – 100, 125 – 130, 131 – 134, 163 – 168, 173 – 178, 179 – 184, 185 – 188, 323 – 330, 341 – 346, 357 – 360 TE: 89A–94B, 95A–100B, 125A–130B, 131 – 134, 163A–168B, 173A–178B, 179A–184B, 185 – 188, 323A–330B, 331A–338B, 357 – 360 |
| Reference: CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems. | |
| M07.B– E Expressions and Equations | |
| M07.B– E.1 Represent expressions in equivalent forms. | |
| M07.B– E.1.1 Use properties of operations to generate equivalent expressions. | |
| M07.B– E.1.1.1 Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. <i>Example 1: The expression $1/2 \cdot (x + 6)$ is equivalent to $1/2 \cdot x + 3$. Example 2: The expression $5.3 - y + 4.2$ is equivalent to $9.5 - y$ (or $-y + 9.5$). Example 3: The expression $4w - 10$ is equivalent to $2(2w - 5)$.</i> | SE: 203 – 208, 209 – 214, 215 – 220, 221 – 226, 233 – 238, 239 – 244, 251–254 TE: 203A–208B, 209A–214B, 215A–220B, 221A–226B, 233A–238B, 239A–244B, 251 – 254 |

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| Reference: CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions. | |
| M07.B– E.2 Solve real– world and mathematical problems using numerical and algebraic expressions, equations, and inequalities. | |
| M07.B– E.2.1 Solve multi– step real– world and mathematical problems posed with positive and negative rational numbers. | |
| M07.B– E.2.1.1 Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate. <i>Example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50 an hour (or $1.1 \times \\$25 = \\27.50).</i> | SE: 65 – 70, 75 – 80, 275 – 280, 311 – 314, 323 – 330, 341 – 346, 357 – 360, 369 – 374, 387 – 392, 405 – 410, 417 – 422, 465 – 470, 481 – 486, 487 – 492, 493–498 TE: 65A–70B, 75 – 80, 269A–274B, 275A–280B, 311 – 314, 323A–330B, 357 – 360, 369A–374B, 387A–392B, 405A–410B, 417 – 422, 465A–470B, 481A–486B, 487A–492B, 493 – 498 |
| Reference: CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations. | |
| M07.B– E.2.2 Use variables to represent quantities in a real– world or mathematical problem and construct simple equations and inequalities to solve problems. | |
| M07.B– E.2.2.1 Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers. <i>Example: The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i> | SE: 197 – 202, 251 – 254, 263 – 268, 269 – 274, 275 – 280, 311 – 314, 387 – 392, 417 – 422, 457 – 462, 465 – 470, 475 – 480, 481 – 486, 487 – 492, 493–498 TE: 197A–202B, 251 – 254, 263A–263B, 269A–274B, 275A–280B, 311 – 314, 387A–392B, 417 – 422, 457A–462B, 465A–470B, 475A–480B, 481A–486B, 487A–492B, 493 – 498 |
| M07.B– E.2.2.2 Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers, and graph the solution set of the inequality. <i>Example: A salesperson is paid \$50 per week plus \$3 per sale. This week she wants her pay to be at least \$100. Write an inequality for the number of sales the salesperson needs to make and describe the solutions.</i> Reference: CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations. | SE: 283 – 288, 289 – 294, 299 – 304, 305 – 310, 311–314 TE: 283A–288B, 289A–294B, 299A–304B, 305A–310B, 311 – 314 |

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| M07.B– E.2.3 Determine the reasonableness of the answer(s) in problem solving situations. | |
| M07.B– E.2.3.1 Determine the reasonableness of answer(s) or interpret the solution(s) in the context of the problem. <i>Example: If you want to place a towel bar that is $9 \frac{3}{4}$ inches long in the center of a door that is $27 \frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i> | SE: 65 – 70, 75 – 80, 269 – 274, 275 – 280, 311 – 314, 323 – 330, 341 – 346, 357 – 360, 369 – 374, 387 – 392, 405 – 410, 417 – 422, 465 – 470, 481 – 486, 487 – 492, 493–498 TE: 65A–70B, 75 – 80, 269A–274B, 275A–280B, 311 – 314, 323A–330B, 341A–346B, 357 – 360, 369A–374B, 387A–392B, 405A–410B, 417 – 422, 465A–470B, 481A–486B, 487A–492B, 493–498 |
| Reference: CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations. | |
| M07.C– G Geometry | |
| M07.C– G.1 Demonstrate an understanding of geometric figures and their properties. | |
| M07.C– G.1.1 Describe and apply properties of geometric figures. | |
| M07.C– G.1.1.1 Solve problems involving scale drawings of geometric figures, including finding length and area. | SE: 431 – 436, 493–498 TE: 431A–436B, 493 – 498 |
| M07.C– G.1.1.2 Identify or describe the properties of all types of triangles based on angle and side measures. | SE: 443 – 450, 493–498 TE: 443A–450B, 493–498 |
| M07.C– G.1.1.3 Use and apply the triangle inequality theorem. | SE: 443 – 450, 493–498 TE: 443A–450B, 493–498 |
| M07.C– G.1.1.4 Describe the two– dimensional figures that result from slicing three– dimensional figures. <i>Example: Describe plane sections of right rectangular prisms and right rectangular pyramids.</i> | SE: 475 – 480, 493–498 TE: 475A–480B, 493 – 498 |
| Reference: CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them. | |
| M07.C– G.2 Solve real– world and mathematical problems involving angle measure, circumference, area, surface area, and volume. | |
| M07.C– G.2.1 Identify, use, and describe properties of angles and their measures. | |
| M07.C– G.2.1.1 Identify and use properties of supplementary, complementary, and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure. | SE: 451 – 456, 493–498 TE: 451A–456B, 493 – 498 |

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| M07.C– G.2.1.2 Identify and use properties of angles formed when two parallel lines are cut by a transversal (e.g., angles may include alternate interior, alternate exterior, vertical, corresponding). | SE: 451 – 456, 493–498 TE: 451A–456B, 493 – 498 |
| Reference: CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume. | |
| M07.C– G.2.2 Determine circumference, area, surface area, and volume. | |
| M07.C– G.2.2.1 Find the area and circumference of a circle. Solve problems involving area and circumference of a circle(s). Formulas will be provided. | SE: 457 – 462, 465 – 470, 493 – 498 TE: 457A–462B, 465A–470B, 493 – 498 |
| M07.C– G.2.2.2 Solve real– world and mathematical problems involving area, volume, and surface area of two and three– dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. Formulas will be provided. | SE: 481 – 486, 487 – 492, 493–498 TE: 481A–486B, 487A–492B, 493 – 498 |
| Reference: CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume. | SE: 437 – 442, 443 – 450, 451 – 456, 457 – 462, 465 – 470, 481 – 486, 487 – 492, 493–498 TE: 437A–424B, 443A–450B, 451A–456B, 457A–462B, 465A–470B, 481A–486B, 487A–492B, 493–498 |
| M07.D– S Statistics and Probability | |
| M07.D– S.1 Use random sampling to draw inferences about a population. | |
| M07.D– S.1.1 Use random samples. | |
| M07.D– S.1.1.1 Determine whether a sample is a random sample given a real– world situation. | SE: 331 – 338, 357–360 TE: 331A–338B, 357 – 360 |
| M07.D– S.1.1.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. <i>Example 1: Estimate the mean word length in a book by randomly sampling words from the book. Example 2: Predict the winner of a school election based on randomly sampled survey data.</i> | SE: 323 – 330, 331 – 338, 341 – 346, 357–360 TE: 323A–330B, 331A–338B, 341A–346B, 357 – 360 |

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| Reference: CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts. | |
| M07.D– S.2 Draw comparative inferences about populations. | |
| M07.D– S.2.1 Use statistical measures to compare two numerical data distributions. | |
| M07.D– S.2.1.1 Compare two numerical data distributions using measures of center and variability. <i>Example 1: The mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team. This difference is equal to approximately twice the variability (mean absolute deviation) on either team. On a line plot, note the difference between the two distributions of heights. Example 2: Decide whether the words in a chapter of a seventh– grade science book are generally longer than the words in a chapter of a fourth grade science book.</i> | SE: 347– 352, 357–360 TE: 347A–352B, 357 – 360 |
| Reference: CC.2.4.7.B.2 Draw informal comparative inferences about two populations. | |
| M07.D– S.3 Investigate chance processes and develop, use, and evaluate probability models. | |
| M07.D– S.3.1 Predict or determine the likelihood of outcomes. | |
| M07.D– S.3.1.1 Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible (i.e., a probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event). | SE: 369 – 374, 375 – 380, 381 – 386, 387 – 392, 399 – 404, 405 – 410, 411 – 416, 417–422 TE: 369A–374B, 375A–380B, 381A–386B, 387A–392B, 399A–404B, 405A–410B, 411A–416B, 417 – 422 |
| Reference: CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models. | |
| M07.D– S.3.2 Use probability to predict outcomes. | |
| M07.D– S.3.2.1 Determine the probability of a chance event given relative frequency. Predict the approximate relative frequency given the probability. <i>Example: When rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times but probably not exactly 200 times.</i> | SE: 375 – 380, 417–422 TE: 375A–380B, 417 – 422 |
| M07.D– S.3.2.2 Find the probability of a simple event, including the probability of a simple event not occurring. <i>Example: What is the probability of not rolling a 1 on a number cube?</i> | SE: 369 – 374, 381 – 386, 387 – 392, 417–422 TE: 369A–374B, 381A–386B, 387A–392B, 417 – 422 |
| M07.D– S.3.2.3 Find probabilities of independent compound events using organized lists, tables, tree diagrams, and simulation. | SE: 399 – 404, 405 – 410, 411 – 416, 417–422 TE: 399A–404B, 405A–410B, 411A–416B, 417 – 422 |
| Reference: CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models. | |

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| M08.A– N The Number System | |
| M08.A– N.1 Demonstrate an understanding of rational and irrational numbers. | |
| M08.A– N.1.1 Apply concepts of rational and irrational numbers. | |
| M08.A– N.1.1.1 Determine whether a number is rational or irrational. For rational numbers, show that the decimal expansion terminates or repeats (limit repeating decimals to thousandths). | SE: 9 – 14, 15 – 20, 75–80 TE: 9A–14B, 15A–20B, 75 – 80 |
| M08.A– N.1.1.2 Convert a terminating or repeating decimal to a rational number (limit repeating decimals to thousandths). | SE: 9 – 14, 75–80 TE: 9A–14B, 75 – 80 |
| M08.A– N.1.1.3 Estimate the value of irrational numbers without a calculator (limit whole number radicand to less than 144). <i>Example: $\sqrt{5}$ is between 2 and 3 but closer to 2.</i> | SE: 15 – 20, 21 – 26, 75–80 TE: 15A–20B, 21A–26B, 75 – 80 |
| M08.A– N.1.1.4 Use rational approximations of irrational numbers to compare and order irrational numbers. | SE: 21 – 26, 75–80 TE: 21A–26B, 75 – 80 |
| M08.A– N.1.1.5 Locate/identify rational and irrational numbers at their approximate locations on a number line. | SE: 21 – 26, 75–80 TE: 21A–26B, 75 – 80 |
| Reference: CC.2.1.8.E.1 Distinguish between rational and irrational numbers using their properties. CC.2.1.8.E.4 Estimate irrational numbers by comparing them to rational numbers. | |
| M08.B– E Expressions and Equations | |
| M08.B– E.1 Demonstrate an understanding of expressions and equations with radicals and integer exponents. | |
| M08.B– E.1.1 Represent and use expressions and equations to solve problems involving radicals and integer exponents. | |
| M08.B– E.1.1.1 Apply one or more properties of integer exponents to generate equivalent numerical expressions without a calculator (with final answers expressed in exponential form with positive exponents). Properties will be provided. <i>Example: $3^{12} \times 3^{-15} = 3^{-3} = 1/(3^3)$</i> | SE: 41 – 46, 47 – 52, 53 – 58, 59 – 64, 69 – 74, 75 – 80 TE: 41A–46B, 47A–52B, 53A–58B, 59A–64B, 69A–74B, 75 – 80 |
| M08.B– E.1.1.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of perfect squares (up to and including 12^2) and cube roots of perfect cubes (up to and including 5^3) without a calculator. <i>Example: If $x^2 = 25$ then $x = \pm\sqrt{25}$.</i> | SE: 27 – 32, 33 – 38, 75–80 TE: 27A–32B, 33A–38B, 75 – 80 |

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| M08.B– E.1.1.3 Estimate very large or very small quantities by using numbers expressed in the form of a single digit times an integer power of 10 and express how many times larger or smaller one number is than another. <i>Example: Estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 and determine that the world population is more than 20 times larger than the United States' population.</i> | SE: 53 – 58, 59 – 64, 69 – 74, 75–80 TE: 53A–58B, 59A–64B, 69A–74B, 75 – 80 |
| M08.B– E.1.1.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Express answers in scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology (e.g., interpret 4.7EE9 displayed on a calculator as 4.7×10^9). | SE: 69 – 74, 75–80 TE: 69A–74B, 75 – 80 |
| Reference: CC.2.2.8.B.1 Apply concepts of radicals and integer exponents to generate equivalent M08.B– E.2 Understand the connections between proportional relationships, lines, and linear equations. | |
| M08.B– E.2.1 Analyze and describe linear relationships between two variables, using slope. | |
| M08.B– E.2.1.1 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. <i>Example: Compare a distance– time graph to a distance– time equation to determine which of two moving objects has greater speed.</i> | SE: 121 – 126, 151–156 TE: 121A–126B, 151 – 156 |
| M08.B– E.2.1.2 Use similar right triangles to show and explain why the slope m is the same between any two distinct points on a non– vertical line in the coordinate plane. | SE: 127 – 132, 133 – 138, 139 – 144, 145 – 150, 151–156 TE: 127A–132B, 133A–138B, 139A–144B, 145A–150B, 151 – 156 |
| M08.B– E.2.1.3 Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b . expressions. | SE: 133 – 138, 139 – 144, 145 – 150, 151–156 TE: 133A–138B, 139A–144B, 145A–150B, 151 – 156 |

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| Reference: CC.2.2.8.B.2 Understand the connections between proportional relationships, lines, and linear equations. | |
| M08.B– E.3 Analyze and solve linear equations and pairs of simultaneous linear equations. | |
| M08.B– E.3.1 Write, solve, graph, and interpret linear equations in one or two variables, using various methods. | |
| M08.B– E.3.1.1 Write and identify linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). | SE: 107 – 114, 151–156 TE: 107A–114B, 151 – 156 |
| M08.B– E.3.1.2 Solve linear equations that have rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. | SE: 89 – 94, 95 – 100, 101 – 106, 151–156 TE: 89A–94B, 95A–100B, 101A–106B, 151 – 156 |
| M08.B– E.3.1.3 Interpret solutions to a system of two linear equations in two variables as points of intersection of their graphs because points of intersection satisfy both equations simultaneously. | SE: 267 – 272, 273 – 278, 297–300 TE: 267A–272B, 273A–273B, 297 – 300 |
| M08.B– E.3.1.4 Solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>Example: $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</i> | SE: 267 – 272, 273 – 278, 281 – 286, 287 – 292, 297–300 TE: 267A–272B, 273A–273B, 281A–286B, 287A–292B, 297 – 300 |
| M08.B– E.3.1.5 Solve real– world and mathematical problems leading to two linear equations in two variables. <i>Example: Given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i> | SE: 267 – 272, 273 – 278, 281 – 286, 287 – 292, 297–300 TE: 267A–272B, 273A–273B, 281A–286B, 287A–292B, 297 – 300 |
| Reference: CC.2.2.8.B.3 Analyze and solve linear equations and pairs of simultaneous linear equations. | |
| M08.B– F Functions | |
| M08.B– F.1 Analyze and interpret functions. | |
| M08.B– F.1.1 Define, evaluate, and compare functions displayed algebraically, graphically, or numerically in tables or by verbal descriptions. | |
| M08.B– F.1.1.1 Determine whether a relation is a function. | SE: 165 – 170, 207–210 TE: 165A–170B, 207 – 210 |

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| M08.B– F.1.1.2 Compare properties of two functions, each represented in a different way (i.e., algebraically, graphically, numerically in tables, or by verbal descriptions). <i>Example: Given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i> | SE: 177 – 182, 189 – 194, 207–210 TE: 177A–182B, 189A–194B, 207 – 210 |
| M08.B– F.1.1.3 Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear. | SE: 177 – 182, 207 – 210, 225 – 230, 231 – 236, 255 – 258 TE: 177A–182B, 207 – 210, 225A–230B, 231A–236B, 255 – 258 |
| Reference: CC.2.2.8.C.1 Define, evaluate, and compare functions. | |
| M08.B– F.2 Use functions to model relationships between quantities. | |
| M08.B– F.2.1 Represent or interpret functional relationships between quantities using tables, graphs, and descriptions. | |
| M08.B– F.2.1.1 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models and in terms of its graph or a table of values. | SE: 189 – 194, 207 – 210, 225 – 230, 231 – 236, 255–258 TE: 189A–194B, 207 – 210, 225A–230B, 231A–236B, 255 – 258 |
| M08.B– F.2.1.2 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch or determine a graph that exhibits the qualitative features of a function that has been described verbally. | SE: 171 – 176, 195 – 200, 201 – 206, 207–210 TE: 171A–176B, 195A–200B, 201A–206B, 207 – 210 |
| Reference: CC.2.2.8.C.2 Use concepts of functions to model relationships between quantities. | |
| M08.C– G Geometry | |
| M08.C– G.1 Demonstrate an understanding of geometric transformations. | |
| M08.C– G.1.1 Apply properties of geometric transformations to verify congruence or similarity. | |
| M08.C– G.1.1.1 Identify and apply properties of rotations, reflections, and translations. <i>Example: Angle measures are preserved in rotations, reflections, and translations.</i> | SE: 309 – 314, 315 – 320, 321 – 326, 327 – 332, 377–382 TE: 309A–314B, 315A–320B, 321A–326B, 327A–332B, 377 – 382 |
| M08.C– G.1.1.2 Given two congruent figures, describe a sequence of transformations that exhibits the congruence between them. | SE: 337 – 342, 377–382 TE: 337A–342B, 377 – 382 |

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| M08.C– G.1.1.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. | SE: 309 – 314, 315 – 320, 321 – 326, 327 – 332, 337 – 342, 345 – 350, 351 – 356, 377–382 TE: 309A–314B, 315A–320B, 321A–326B, 327A–332B, 337A–342B, 345A–350B, 351A–356B |
| M08.C– G.1.1.4 Given two similar two-dimensional figures, describe a sequence of transformations that exhibits the similarity between them. | SE: 351 – 356, 371 – 376, 377–382 TE: 351A–356B, 371A–376B, 377 – 382 |
| Reference: CC.2.3.8.A.2 Understand and apply congruence, similarity, and geometric transformations using various tools. | |
| M08.C– G.2 Understand and apply the Pythagorean theorem. | |
| M08.C– G.2.1 Solve problems involving right triangles by applying the Pythagorean theorem. | |
| M08.C– G.2.1.1 Apply the converse of the Pythagorean theorem to show a triangle is a right triangle. | SE: 409 – 414, 421–424 TE: 409A–414B, 421 – 424 |
| M08.C– G.2.1.2 Apply the Pythagorean theorem to determine unknown side lengths in right triangles in real– world and mathematical problems in two and three dimensions. (Figures provided for problems in three dimensions will be consistent with Eligible Content in grade 8 and below.) | SE: 395 – 400, 401 – 406, 409 – 414, 415 – 420, 421 – 424 TE: 395A–400B, 401A–406B, 409A–414B, 415A–420B, 421 – 424 |
| M08.C– G.2.1.3 Apply the Pythagorean theorem to find the distance between two points in a coordinate system. | SE: 415 – 420, 421 – 424 TE: 415A–420B, 421 – 424 |
| Reference: CC.2.3.8.A.3 Understand and apply the Pythagorean Theorem to solve problems. | |
| M08.C– G.3 Solve real– world and mathematical problems involving volume. | |
| M08.C– G.3.1 Apply volume formulas of cones, cylinders, and spheres. | SE: 439 – 444, 447 – 452, 453 – 458, 463–466 TE: 439A–444B, 447A–452B, 453A–458B, 463 – 466 |
| M08.C– G.3.1.1 Apply formulas for the volumes of cones, cylinders, and spheres to solve real– world and mathematical problems. Formulas will be provided. | SE: 439 – 444, 447 – 452, 453 – 458, 463–466 TE: 439A–444B, 447A–452B, 453A–458B, 463 – 466 |

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| Reference: CC.2.3.8.A.1 Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems. | |
| M08.D– S Statistics and Probability | |
| M08.D– S.1 Investigate patterns of association in bivariate data. | |
| M08.D– S.1.1 Analyze and interpret bivariate data displayed in multiple representations . Formulas will be provided. | SE: 219 – 224, 225 – 230, 231 – 236, 239 – 244, 245 – 250, 255–258 TE: 219A–224B, 225A–230B, 231A–236B, 239A–244B, 245A–250B, 255 – 258 |
| M08.D– S.1.1.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative correlation, linear association, and nonlinear association. | SE: 219 – 224, 225 – 230, 231 – 236, 255–258 TE: 219A–224B, 225A–230B, 231A–236B, 255 – 258 |
| M08.D– S.1.1.2 For scatter plots that suggest a linear association, identify a line of best fit by judging the closeness of the data points to the line. | SE: 231 – 236, 255–258 TE: 231A–236B, 255 – 258 |
| M08.D– S.1.1.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. <i>Example: In a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i> | SE: 231 – 236, 255–258 TE: 231A–236B, 255 – 258 |
| Reference: CC.2.4.8.B.1 Analyze and/or interpret bivariate data displayed in multiple representations. | |
| M08.D– S.1.2 Understand that patterns of association can be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two– way table. | |
| M08.D– S.1.2.1 Construct and interpret a two–way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible associations between the two variables. <i>Example: Given data on whether students have a curfew on school nights and whether they have assigned chores at home, is there evidence that those who have a curfew also tend to have chores?</i> | SE: 239 – 244, 245 – 250, 255–258 TE: 239A–244B, 245A–250B, 255 – 258 |
| Reference: CC.2.4.8.B.2 Understand that patterns of association can be seen in bivariate data utilizing frequencies. | |