

Number and Number Sense

8.1 The student will compare and order real numbers.

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8.2 The student will describe the relationships between the subsets of the real number system.

8.3 The student will
a) estimate and determine the two consecutive integers between which a square root lies; and
b) determine both the positive and negative square roots of a given perfect square.

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Computation and Estimation

7.3 The student will solve single-step and multi-step practical problems, using proportional reasoning.

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8.4 The student will solve practical problems involving consumer applications.

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Geometry and Measurement

7.4 The student will

- a) describe and determine the volume and surface area of rectangular prisms and cylinders; and
- b) solve problems, including practical problems, involving the volume and surface area of rectangular prisms and cylinders;

7.5 The student solve problems, including practical problems, involving the relationship between corresponding sides and corresponding angles of similar quadrilaterals and triangles.

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7.7 The student, given a polygon in the coordinate plane, will represent transformations (reflections, dilations, rotations, and translations) by graphing in the coordinate plane.

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8.5 The student will use the relationships among pairs of angles that are vertical angles, adjacent angles, supplementary angles, and complementary angles to determine the measure of unknown angles.

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8.6 The student will

- a) solve problems, including practical problems, involving volume and surface area of cones and square-based pyramids; and
- b) describe how changing one measured attribute of a rectangular prism affects the volume and surface area.

8.7 The student will
a) given a polygon, apply transformations, to include translations, reflections, and dilations, in the coordinate plane; and
b) identify practical applications of transformations.

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8.8 The student will construct a three-dimensional model, given the top or bottom, side, and front views.

8.9 The student will
a) verify the Pythagorean Theorem; and
b) apply the Pythagorean Theorem.

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8.10 The student will solve area and perimeter problems, including practical problems, involving composite plane figures.

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Probability and Statistics

7.8 The student will
a) determine the theoretical and experimental probabilities of an event; and
b) investigate and describe the difference between the experimental probability and theoretical probability of an event.

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8.11 The student will
a) compare and contrast the probability of independent and dependent events; and
b) determine probabilities for independent and dependent events.

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8.12 The student will
a) represent numerical data in boxplots;
b) make observations and inferences about data represented in boxplots; and
c) compare and analyze two data sets using boxplots.

8.13 The student will
a) represent data in scatterplots;
b) make observations about data represented in scatterplots; and
c) use a drawing to estimate the line of best fit for data represented in a scatterplot.

Patterns, Functions, and Algebra

7.11 The student will evaluate algebraic expressions for given replacement values of the variables.

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8.14 The student will
a) evaluate an algebraic expression for given replacement values of the variables; and
b) simplify algebraic expressions in one variable.

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8.15 The student will
a) determine whether a given relation is a function; and
b) determine the domain and range of a function.

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8.16 The student will
a) recognize and describe the graph of a linear function with a slope that is positive, negative, or zero;
b) identify the slope and y-intercept of a linear function given a table of values, a graph, or an equation in $y=mx+b$ form;
c) determine the independent and dependent variable, given a practical situation modeled by a linear function;
d) graph a linear function given the equation in $y=mx+b$ form; and
e) make connections between and among representations of a linear function using verbal descriptions, tables, equations, and graphs.

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8.17 The student will solve multistep linear equations in one variable with the variable on one or both sides of the equation, including practical problems that require the solution of a multistep linear equation in one variable.

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8.18 The student will solve multistep linear inequalities in one variable with the variable on one or both sides of the inequality symbol, including practical problems, and graph the solution on a number line.

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