

GRADE SEVEN MATHEMATICS KANSAS ASSESSED STANDARDS

Knowledge Indicators

The student...

7K.1.4.2: performs and explains these computational procedures:

- a. N adds and subtracts decimals from ten millions place through hundred-thousandths place;
- b. N multiplies and divides a four-digit number by a two-digit number using numbers from thousands place through thousandths place;
- c. N multiplies and divides using numbers from thousands place through thousandths place by 10; 100; 1,000; .1; .01; .001; or single-digit multiples of each;
- d. N adds, subtracts, multiplies, and divides fractions and expresses answers in simplest form.

7K.1.4.5: finds percentages of rational numbers. (For the purpose of assessment, percents will not be between 0 and 1.)

7K.2.1.1: identifies, states, and continues a pattern presented in various formats including numeric (list or table), algebraic (symbolic notation), visual (picture, table, graph), verbal (oral description), kinesthetic (action), and written using these attributes:

- a. counting numbers including perfect squares, cubes, and factors and multiples; (number theory):
- b. positive rational numbers including arithmetic and geometric sequences (arithmetic: sequence of numbers in which the difference of two consecutive numbers is the same, geometric: a sequence of numbers in which each succeeding term is obtained by multiplying the preceding term by the same number).

7K2.1.4: states the rule in find the n^{th} term of a pattern with one operational change (addition or subtraction) between consecutive terms.

7K.2.2.7: knows the mathematical relationship between ratios, proportions, and percents and how to solve for a missing term in a proportion with positive rational number solutions and monomials.

7K.2.2.8: evaluates simple algebraic expressions using positive rational numbers.

7K.3.1.3: identifies angle and side properties of triangles and quadrilaterals:

- a. sum of the interior angles of any triangle is 180° ;
- b. sum of the interior angles of any quadrilateral is 360° ,
- c. parallelograms have opposite sides that are parallel and congruent;
- d. rectangles have angles of 90° , opposite sides are congruent;
- e. rhombi have all sides the same length, opposite angles are congruent;
- f. squares have angles of 90° , all sides congruent;
- g. trapezoids have one pair of opposite sides parallel and the other pair of opposites sides are not parallel.

7K.3.2.4: knows and uses perimeter and area formulas for circles, squares, rectangles, triangles, and parallelograms.

7K.3.2.6: uses given measurement formulas to find:

- a. surface area of cubes;
- b. volume of rectangular prisms.

7K.4.2.1: organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these data displays:

- a. frequency tables;
- b. bar, line, and circle graphs;
- c. Venn diagrams or other pictorial displays;
- d. charts and tables;
- e. stem-and-leaf plots;
- f. scatter plots;
- g. box-and-whisker plots.

Application Indicators

7K.1.1.1: generates and/or solves real-world problems using:

- a. equivalent representations of rational numbers and simple algebraic expressions.

7K.2.2.1: represents real-world problems using variables and symbols to write linear expressions, one- or two-step equations.

7K.3.2.1: solves real-world problems by:

- c. finding perimeter and area of two-dimensional composite figures of circles, squares, rectangles, and triangles.

7K.3.3.3: determines the actual dimensions and/or measurements of a two-dimensional figure represented in a scale drawing.

7K.4.2.3: recognizes and explains:

- a. misleading representations of data;
- b. the effects of scale or interval changes on graphs of data sets.

Italics – assessed indicators only on the Optional Response Assessment

N – Non-calculator

7K1.4.2 – Grade 7 Kansas Standard 1, Benchmark 4, Indicator 2