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# OKLAHOMA PRIORITY ACADEMIC STUDENT SKILLS CORRELATED TO *MOVING WITH ALGEBRA GRADE 8*

| | | Part A Student Book Skill Builders (SB) | Part B Student Book Skill Builders (SB) |
|---|---|---|---|
| | **STANDARD 1: ALGEBRAIC REASONING** | | |
| | **The student will graph and solve linear equations and inequalities in problem-solving situations.** | | |
| 1. | Equations | | |
| a. | Model, write, and solve 2-step linear equations using a variety of methods. | | 260, 262, 281<br>**SB:** 216-218, 245 |
| b. | Graph and interpret the solution to linear equations on a number line with one variable and on a coordinate plane with two variables. | | 232, 281, 310, 312-314, 316, 317, 322, 324, 326, 327<br>**SB:** 197, 236-239, 242, 243, 249, 254 |
| c. | Predict the effect on the graph of a linear equation when the slope changes (e.g., make predictions from graphs, identify the slope in the equation y = mx + b and relate to a graph). | | 321-328<br>**SB:** 241-243, 249, 254 |
| 2. | Inequalities | | |
| a. | Model, write, and solve 1-step and 2-step linear inequalities with one variable. | | 282-287<br>**SB:** 225 |
| b. | Graph the solution to linear inequalities with one variable on a number line. | | 281 |
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| | **STANDARD 2: NUMBER SENSE** | | |
| | **The student will use numbers and number relationships to solve problems.** | | |
| 1. | Rational numbers and proportional reasoning | | |
| a. | Compare and order rational numbers (positive and negative integers, fractions, decimals) in real-life situations. | 6, 7, 64, 88-90, 135, 136<br>**SB:** 5, 6, 54, 67-69, 112, 113, 139, 140, 144 | 241, 242<br>**SB:** 200, 201, 204 |

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| **b.** | Use the basic operations on rational numbers to solve problems in real-life situations (e.g., describe the effect of multiplying whole numbers by a fraction or a decimal less than 1). | 32-34, 54, 55, 58, 59, 78, 105, 106, 116, 118, 119, 145, 146, 159, 160<br>**SB:** 27, 28, 44-46, 51-53, 87, 88, 101, 119, 128, 129 | 244-248, 274-280<br>**SB:** 202-206, 217, 218, 222-224, 245, 246 |
| **c.** | Apply ratios and proportions to solve problems. | 122<br>**SB:** 102 | 222, 225-227, 275-278<br>**SB:** 187-189, 191-193, 222, 223, 246 |
| **2.** | Exponents | | |
| **a.** | Use the rules of exponents, including integer exponents, to solve problems (e.g., $7^2 \bullet 7^3 = 7^5$). | 16-19<br>**SB:** 13, 14 | 295-303<br>**SB:** 228-232, 247, 252 |
| **b.** | Represent and interpret large numbers and numbers less than one in exponential and scientific notation. | 22, 23, 25<br>**SB:** 17, 18 | 215, 294-297<br>**SB:** 229, 252 |
| **c.** | Use estimation strategies (e.g., rounding) to describe the magnitude of large numbers and numbers less than one. | 8, 9, 24, 89-91, 129, 130, 132, 133<br>**SB:** 7, 8, 67-70, 104-107, 109 | |
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| | **STANDARD 3: GEOMETRY** | | |
| | **The student will use geometric properties to solve problems in a variety of contexts.** | | |
| **1.** | Construct models, sketch (from different perspectives), and classify solid figures such as rectangular solids, prisms, cones, cylinders, pyramids, and combined forms (e.g., draw a figure that could result from making 1, 2, or 3 cuts in a given solid). | | 192, 193, 212-214<br>**SB:** 161, 162, 182 |
| **2.** | Develop the Pythagorean Theorem and apply the formula to find the length of missing sides of a right triangle and the length of other line segments. | | 218, 219<br>**SB:** 186 |
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| | **STANDARD 4: MEASUREMENT** | | |
| | **The student will use measurement to solve problems in a variety of contexts.** | | |

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|---|---|---|---|
| **1.** | Estimate and find the surface area and volume in real world settings (e.g., unwrap a box to explore surface area; use rice, 1-inch cubes, centimeter cubes, cups... to estimate the volume of boxes, irregular shaped objects, containers). | | 212-214<br>**SB:** 180-182 |
| **2.** | Apply knowledge of ratio and proportion to solve relationships between similar geometric figures (e.g., build a model of a 3-dimensional object to scale). | | 224-227<br>**SB:** 189, 191, 192 |
| **3.** | Formulas | | |
| **a.** | Select and apply appropriate formulas for given situations:<br>– an equation (e.g., d = rt, l = prt)<br>– measurement problems (e.g., p = 21 + 2w, v = lwh) | 178<br>**SB:** 138 | 207-214, 231-234, 279, 280, 311-316<br>**SB:** 176, 177, 179-183, 196, 197, 224, 236-239, 254 |
| **b.** | Find the area of a "region of a region" for simple composite figures (e.g., area of a rectangular picture frame). | | |
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| | **STANDARD 5: DATA ANALYSIS AND STATISTICS** | | |
| | **The student will use data analysis and statistics to interpret data in a variety of contexts.** | | |
| **1.** | Select and apply appropriate formats (e.g., line plots, bar graphs, stem-and-leaf plots, scatter plots, histograms, circle graphs) to display collected data. | 179<br>**SB:** 101 | |
| **2.** | Measures of central tendency | | |
| | **a.** Find the measures of central tendency (mean, median and mode) of a set of data and understand why a specific measure provides the most useful information in a given context. | 56, 57<br>**SB:** 47-50 | |
| | **b.** Compute the mean, median, and mode for data sets and understand how additional data in a set may affect the measures of central tendency. | 56, 57<br>**SB:** 47-50 | |
| **3.** | Determine how samples are chosen (random, limited, biased) to draw and support conclusions about generalizing a sample to a population (e.g., is the average height of a men's college basketball team a good representative sample for height predictions?). | | |