

**West Linn-Wilsonville School District
Mathematics Curriculum Content Standards
Grades 6-8**

ODE Content Standard	Grade 6 Pre-Algebra
6.1	<p><u>Number and Operations</u>: Develop fluency with multiplication and division of fractions and decimals.</p> <ul style="list-style-type: none"> • Select and use appropriate strategies to estimate fraction and decimal products and quotients. • Use and analyze a variety of strategies, including models, for solving problems with multiplication and division of fractions. • Use and analyze a variety of strategies, including models, for solving problems with multiplication and division of decimals. • Develop fluency with efficient procedures for multiplying and dividing fractions and decimals and justify why the procedures work. • Apply the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions and justify why they work. • Apply the properties of operations to simplify calculations. • Use the relationship between common decimals and fractions to solve problems including problems involving measurement.
7.1 7.1.1 – 7.1.3	<p><u>Number and Operations</u> and <u>Algebra</u>: Develop an understanding of operations on all rational numbers and solving linear equations.</p> <ul style="list-style-type: none"> • Develop, analyze, and apply models (including everyday contexts), strategies, and procedures to compute with integers, with an emphasis on negative integers. • Extend knowledge of integers and positive rational numbers to solve problems involving negative rational numbers. • Develop and use strategies to estimate the result of rational number computations and justify the reasonableness of results.
6.2 6.2.5	<p><u>Number and Operations</u> and <u>Probability</u>: Connect ratio, rate, and percent to multiplication and division.</p> <ul style="list-style-type: none"> • Develop the concept of π as the ratio of the circumference of a circle to its diameter.
6.3 6.3.1 & 6.3.4 – 6.3.7	<p><u>Algebra</u>: Write, interpret, and use mathematical expressions and equations.</p> <ul style="list-style-type: none"> • Use order of operations to simplify expressions that may include exponents and grouping symbols. • Identify and represent equivalent expressions (e.g., different ways to see a pattern). • Represent, analyze, and determine relationships and patterns using tables, graphs, words and when possible, symbols. • Recognize that the solutions of an equation are the values of the variables that make the equation true. • Solve one-step equations by using number sense, properties of operations, and the idea of maintaining equality on both sides of an equation.

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7.3	<p><u>Measurement and Geometry</u>: Develop an understanding of and use formulas to determine surface area and volume.</p> <ul style="list-style-type: none">• Use models to explain the reasonableness of formulas for the circumference and area of circles.• Know common estimates of π and use these values to estimate and calculate the circumference and area of a circle.• Solve problems involving areas and circumferences of circles.• Use models to explain the reasonableness of formulas for the surface area of pyramids and cylinders, and volume of pyramids, cylinders, and cones.• Find and justify relationships among the formulas for the areas of different polygons when determining surface area.• Solve problems involving surface areas of pyramids and cylinders and volumes of pyramids, cylinders, and cones.• Estimate and compute the area and volume of complex or irregular shapes by dividing them into basic shapes.

It is essential that these standards be addressed in contexts that promote problem solving, reasoning, communication, making connections, and designing and analyzing representations.