

School District of Loyal

Math for Tech Trades

Grade: 11-12

Student Learning Targets



Class: Math for Tech Trades

Students who demonstrate understanding can:

WI State Standards	Standard:	Student Learning Targets:
M.4.NBT.B.4 M.4.NBT.B.5 M.4.NBT.B.6	Use place value understanding and properties of operations to perform multidigit arithmetic.	Students will be able to: <ul style="list-style-type: none"> ● Round whole numbers ● Add and subtract whole numbers ● Multiply and divide whole numbers ● Follow the order of operations
M.7.EE.B.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.	Students will be able to: <ul style="list-style-type: none"> ● Add, subtract, multiply and divide fractions
M.6.NS.B.3	Flexibly and efficiently add, subtract, multiply, and divide multi-digit decimals using strategies or algorithms based on place value, visual models, the relationship between operations, and the properties of operations.	Students will be able to: <ul style="list-style-type: none"> ● Add, subtract, multiply and divide decimal numbers
M.7.RP.A.3	Use proportional relationships to solve multi-step ratio and percent problems	Students will be able to: <ul style="list-style-type: none"> ● Understand the similarity between ratio and proportions, and use ratios and proportions to solve problems ● Convert between decimal values and percentages ● Use percentages to solve real-world problems

M.5.MD.A.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Convert between metric and customary units • Use tools to measure real-world objects and solve problems with those tools
M.8.EE.A.1 M.8.EE.A.2 M.8.EE.A.3	Work with radicals and integer exponents.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Add and subtract negative numbers • Write an exponent as multiplication • Add, subtract, multiply, and divide whole number exponents • Simplify square roots of perfect squares • Approximate square roots using a calculator
M.8.EE.C.7	Solve linear equations in one variable. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Evaluate and simplify formulas and literal expressions • Solve linear equations in one variable • Translate word problems into expressions and equations, and solve those expressions and equations
M.G.GMD.C. 4 M.G.GMD.C. 6	Use geometric shapes, their measures, and their properties to describe objects. Apply geometric methods to solve design problems.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Use angles as a form of measurement • Calculate perimeter and area of regular polygons, quadrilaterals, triangles, and some irregular polygons • Analyze area and circumference of circles
M.7.G.B.6 M.8.G.C.9	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. Know the relationship among the formulas for the volumes of cones, cylinders, and spheres (given the same height and diameter) and use them to solve real-world and mathematical problems.	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Analyze properties of solid figures, including surface area and volume of basic prisms, pyramids, cylinders, spheres, and cones.
M.G.SRT.C.8 M.G.SRT.D.1 1	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Analyze right triangles with trigonometry • Use trigonometry to solve oblique triangles

<p>M.A.REI.C.6 M.A.REI.B.4</p>	<p>Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. Solve quadratic equations by inspection, taking square roots, completing the square, the quadratic formula, factoring, and graphing as appropriate to the initial form of the equation.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Solve basic systems of equations ● Analyze and solve basic quadratic equations
<p>M.6.SP.B.4</p>	<p>Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> ● Read and construct graphs from varying data