

Sixth Grade Math

Essential Standards and Learning Targets

+*Think: Is it R.E.A.L.?

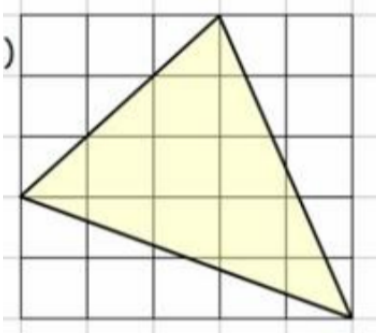
READINESS (needed for next grade), **ENDURANCE** (expected to stay with students through multiple grades), **ASSESSED** (on NYS Test), **LEVERAGE** (used in multiple subjects)

Essential Standards	Learning Targets for Assessment and Reflection (Uses student-friendly language) Can put an example of an “ultimate problem” to show DOK	Incremental Skills (Explains what students should know and be able to do; unwrapped standards)	Where/ When is it Taught?
<p>NY-RP.3a Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.</p>	<p>I can create a table of equivalent ratios using whole numbers.</p> <p>I can fill in missing values in a table of equivalent ratios.</p> <p>I can use a table to plot pairs of values on a coordinate plane.</p> <p>I can identify a relationship based on a table and a graph on a coordinate plane.</p> <p>Example: Identify the relationship, write a rule such as $x = y + 2$ or explain the rule in words, and plot on a coordinate plane.</p>	<ul style="list-style-type: none"> ○ make a table of equivalent ratios using whole numbers ○ multiplication facts ○ Input/output ○ horizontal layout vs. vertical layout - if the table is flipped, still being able to understand it's a ratio table ○ write a coordinate pair ○ plot a coordinate pair ○ plot pairs of values that represent equivalent ratios on the coordinate plane ○ use tables to compare proportional quantities ○ describe the relationship using an equation 	Module 1
<p>NY-6.RP.3b: Solve unit rate problems.</p> <p>E.g., If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed? What is the unit rate?</p> <p>Note: problems may include unit pricing and constant speed.</p>	<p>I can solve problems using unit rate.</p> <p>I can apply the concept of unit rate to solve real-world problems involving unit pricing.</p> <p>I can apply the concept of unit rate using the formula to solve real-world problems involving constant speed.</p>	<ul style="list-style-type: none"> ● Determine unit rate ● Distance = rate x time ● Unit rate vs. rate unit 	Module 1
<p>NY-6.RP.3c: Find a percent of a quantity as a rate per 100. Solve</p>	<p>I can solve real world problems that involve finding the part, the whole, and the percent.</p>	<ul style="list-style-type: none"> - Percent means out of 100 - Double number lines 	Module 1

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<p>problems that involve finding the whole given a part and the percent, and finding a part of a whole given the percent.</p> <p>E.g., 30% of a quantity means 30/100 times the quantity.</p>	<p>I can find a percent of a whole.</p> <p>I can demonstrate how a percent is a ratio of a number to 100.</p> <p><i>Examples:</i> <i>What's 30% of \$50?</i></p> <p><i>If an item is on sale for \$40 after a 20% discount, what was the original price?</i></p> <p><i>An item originally costs \$80 and has been reduced by 25%. How much is the sale price?</i></p>	<ul style="list-style-type: none"> - Tape diagrams - Benchmarks - Division - Equivalent ratios 	
<p>NY-6.NS.3 Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation.</p>	<p>I can add, subtract, multiply, and divide multi-digit numbers with decimals using a standard algorithm.</p> <p><i>2.814 ÷ 0.42</i></p>		Module 2
<p>NY-6.NS.8: Solve real-world and mathematical problems by graphing points on a coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.</p>	<p>I can plot coordinate pairs.</p> <p>I can solve problems by graphing on a coordinate plane.</p> <p>I can use absolute value to determine distance on a coordinate plane.</p>		Module 3
<p>NY-6.EE.3: Apply the properties of operations to generate equivalent expressions.</p> <p>E.g., Apply the distributive property to the expression $3(2 + x)$</p>	<p>I can apply the distributive property to create equivalent expressions.</p>		Module 4

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<p>to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.</p>			
<p>NY-6.EE.6: Use variables to represent numbers and write expressions when solving a real-world or mathematical problem. Understand that a variable can represent an unknown number, or depending on the purpose at hand, any number in a specified set.</p>	<p>I can use variables to represent numbers and write expressions for real-world problems.</p> <p><i>Sally read two more books than John. Let $s =$ Sally and write an expression that represents the relationship. ($s - 2$ or $j + 2$)</i></p>		<p>Module 4</p>
<p>NY-6.G.1: Find area of triangles, trapezoids, and other polygons by composing into rectangles or decomposing into triangles or quadrilaterals. Apply these techniques in the context of solving real-world and mathematical problems.</p> <p>Note: The inclusive definition of a trapezoid will be utilized, which defines a trapezoid as “A quadrilateral with at least one pair of parallel</p>	<p>I can find the area of triangles, trapezoids, and other polygons by composing and decomposing shapes.</p> 		<p>Module 5</p>

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<p>sides.” (This definition includes parallelograms.)</p>			
<p>NY-6.6.SP.3: Recognize that a measure of center for a quantitative data set summarizes all of its values with a single number while a measure of variation describes how its values vary with a single number.</p> <p>Note: Measures of center are mean, median, and mode. The measure of variation is the range.</p>	<p>I can find the mean, median, mode, and range of a data set and decide how a value skews data.</p>		<p>Module 6</p>

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<p>NY-6.SP.6: Understand that the probability of a chance event is a number between 0 and 1 inclusive, that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely or likely, and a probability near 1 indicates a likely event.</p>	<p>I can determine the probability of the occurrence of an event.</p> <p>Vocab: Certain Uncertain Likely unlikely Probability Occurring</p>		<p>Module 6 Module from 7th Grade</p>
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