

Unit Maps: Grade 7 Math

Rational Number Representations and Operations 7.4 Number and operations. The student adds, subtracts, multiplies, and divides rationale numbers while solving problems and justifying solutions.	Unit	CHECKPOINT		
		1	2	3

Catholic Identity: Integration of Our Faith				
7.1A	display a sense of wonder about mathematical relationships *			
7.1B	respond to the beauty, harmony, proportion, radiance, and wholeness present in mathematics *			
7.1C	show interest in how the mental processes evident within mathematics help us with the development of natural virtues *			
7.1D	exhibit appreciation for the process of discovering meanings and truths and not just arriving at an answer. *			

Learning Process Standards (Tools to Know)	Unit	CHECKPOINT		
		1	2	3
7.2A	determine math needed to solve problems			
7.2B	use problem-solving models			
7.2C	exhibit habits of thinking quantitatively *			

Content	Unit	CHECKPOINT		
		1	2	3
Solving Problems using Rational Numbers				
7.4A	solve problems using addition, subtraction, multiplication, and division of rational numbers			
7.4A.1	add, subtract, multiply, and divide rational numbers fluently			
7.4A.2	extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers			

Learning Process Standards (Ways to Show)	Unit	CHECKPOINT		
		1	2	3
7.2D	create representations			
7.2E	analyze information			
7.2F	develop lines of inquiry to determine truth or falsehood *			

Unit Maps: Grade 7 Math

Proportional Reasoning 7.5 Proportionality. The student represents and solves problems involving proportional relationships.	Unit	CHECKPOINT		
		1	2	3

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		1	2	3
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Content		Unit	CHECKPOINT		
			1	2	3
Constant Rate of Change					
7.5A	represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including $d = rt$				
7.5A.1	calculate unit rates from rates in mathematical and real-world problems				
7.5A.2	determine the constant of proportionality ($k = y/x$) within mathematical and real-world problems				

Linear Equations				
7.5B	represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form $y = mx + b$			

Ratios/Rates/Percentages				
7.5C	solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems			

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		1	2	3
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Unit Maps: Grade 7 Math

Geometry and Measurement	Unit	CHECKPOINT		
		1	2	3
7.6 Geometry and measurement. The student solves geometric problems involving proportional relationships and volume				

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Learning Process Standards (Tools to Know)	Unit	CHECKPOINT		
		1	2	3
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Area				
7.6A determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles				
7.6A.1 solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net				
Volume				
7.6B solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids				
7.6B.1 model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas				
7.6B.2 explain verbally and symbolically the relationship between the volume the of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas				
Similarity				
7.6C solve mathematical and real-world problems involving similar shape and scale drawings				
7.6C.1 generalize the critical attributes of similarity, including ratios within and between similar shapes				
Angle Relationships				
7.6D write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships				
Circles				
7.6E determine the circumference and area of circles				
7.6E.1 describe π as the ratio of the circumference of a circle to its diameter				

Learning Process Standards (Ways to Show)	Unit	CHECKPOINT		
		1	2	3
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Unit Maps: Grade 7 Math

Data Analysis 7.7 Measurement and data. The student uses statistical representations to analyze data.	Unit	CHECKPOINT		
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Interpreting Data					
7.7A	solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents				
7.7A.1	use data from a random sample to make inferences about a population				

Comparing of Data				
7.7B	compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads			
7.7B.1	compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations			

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Probability 7.7 Data Analysis. The student uses probability and statistics to describe or solve problems involving proportional relationships.	Unit	CHECKPOINT		
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Determination of Probability					
7.7C	determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces				
7.7C.1	find the probabilities of a simple event and its complement and describe the relationship between the two				
7.7C.2	represent sample spaces for simple and compound events using lists and tree diagrams				
7.7C.3	select and use different simulations to represent simple and compound events with and without technology				

Application of Probability				
7.7D	solve problems using qualitative and quantitative predictions and comparisons from simple experiments			
7.7D.1	make predictions and determine solutions using experimental data for simple and compound events			
7.7D.2	make predictions and determine solutions using theoretical probability for simple and compound events			
7.7D.3	use data from a random sample to make inferences about a population			

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Equations and Inequalities. 7.8 Expressions, equations, and relationships. The student solves one-variable equations and inequalities.	Unit	CHECKPOINT		
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Solving Problems with Equations/Inequalities				
7.8A	model and solve one-variable, two-step equations and inequalities			
7.8A.1	write one-variable, two-step equations and inequalities			
7.8A.2	represent solutions for one-variable, two-step equations and inequalities on number lines			

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