Curriculum Map: Math 7

Course: MATH 7 Sub-topic: General

Grade(s): None specified

Course Description: Students will use problem solving skills to think critically and solve real life applications involving all seventh grade curricular content. Students will apply appropriate tools to solve real-world and mathematical problems involving number systems, ratios and proportional relationships, expressions and equations, as well as probability and statistics.

Unit: Unit 1 - Operations with Integers

This Curriculum Map Unit has no Topics to display

Unit: Unit 2 - Operations with Rational Numbers

This Curriculum Map Unit has no Topics to display

Unit: Unit 3 - Expressions

STANDARDS:

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.1.1.1 (Advanced)	Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. Example 1: The expression 1/2 • (x + 6) is equivalent to 1/2 • x + 3. Example 2: The expression 5.3 - y + 4.2 is equivalent to 9.5 - y (or -y + 9.5). Example 3: The expression 4w - 10 is equivalent to 2(2w - 5).	

Topic: Lesson 3.1 - Parts of Algebraic Expressions

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.1.1.1 (Advanced)	Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. Example 1: The expression 1/2 • (x + 6) is equivalent to 1/2 • x + 3. Example 2: The expression 5.3 - y + 4.2 is equivalent to 9.5 - y (or -y + 9.5). Example 3: The expression 4w - 10 is equivalent to 2(2w - 5).

Topic: Lesson 3.2 - Writing Expressions

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.1.1.1 (Advanced)	Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. Example 1: The expression 1/2 • (x + 6) is equivalent to 1/2 • x + 3. Example 2: The expression 5.3 - y + 4.2 is equivalent to 9.5 - y (or -y + 9.5). Example 3: The expression 4w - 10 is equivalent to 2(2w - 5).

Topic: Lesson 3.3 - Evaluating Expressions

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.1.1.1 (Advanced)	Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. Example 1: The expression 1/2 • (x + 6) is equivalent to 1/2 • x + 3. Example 2: The expression 5.3 - y + 4.2 is equivalent to 9.5 - y (or -y + 9.5). Example 3: The expression 4w - 10 is equivalent to 2(2w - 5).

Topic: Lesson 3.4 - Simplifying Expressions

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.1.1.1 (Advanced)	Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients. Example 1: The expression 1/2 • (x + 6) is equivalent to 1/2 • x + 3. Example 2: The expression 5.3 - y + 4.2 is equivalent to 9.5 - y (or -y + 9.5). Example 3: The expression 4w - 10 is equivalent to 2(2w - 5).

Unit: Unit 4 - Equations

Topic: Lesson 4.1 - One-Step Equations

Topic: Lesson 4.2 - Two-Step Equations

Topic: Lesson 4.3 - Multi-Step Equations

Topic: Lesson 4.4 - Solving Equations with the Variable on Both Sides

Unit: Unit 5 - Inequalities

STANDARDS: **STANDARDS**

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.2.2.2 (Advanced)	Solve word problems leading to inequalities of the form px + q > r or px + q

Topic: Lesson 5.1 - Writing and Graphing Inequalities

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.2.2.2 (Advanced)	Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers, and graph the solution set of the inequality. Example: A salesperson is paid $50 per week plus $3 per sale. This week she wants her pay to be at least $100. Write an inequality for the number of sales the salesperson needs to make and describe the solutions.

Topic: Lesson 5.2 - One-Step Inequalities

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.2.2.2 (Advanced)	Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers, and graph the solution set of the inequality. Example: A salesperson is paid $50 per week plus $3 per sale. This week she wants her pay to be at least $100. Write an inequality for the number of sales the salesperson needs to make and describe the solutions.

Topic: Lesson 5.3 - Two-Step Inequalities

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.2.2.2 (Advanced)	Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers, and graph the solution set of the inequality. Example: A salesperson is paid $50 per week plus $3 per sale. This week she wants her pay to be at least $100. Write an inequality for the number of sales the salesperson needs to make and describe the solutions.

Topic: Lesson 5.4 - Multi-Step Inequalities

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.B-E.2.2.2 (Advanced)	Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers, and graph the solution set of the inequality. Example: A salesperson is paid $50 per week plus $3 per sale. This week she wants her pay to be at least $100. Write an inequality for the number of sales the salesperson needs to make and describe the solutions.

Unit: Unit 6 - Rates, Ratios, and Proportions

STANDARDS: **STANDARDS**

STATE: PA Core Anchors and Eligible Content (2014)

M07.A-R.1.1.1 (Advanced)	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. Example: If a person walks

	1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2 / 1/4 miles per hour, equivalently 2 miles per hour. Alternate Eligible Content Code M07AR1.1.1a: Find the unit rate in a real-world problem	
M07.A-R.1.1.2 (Advanced)	Determine whether two quantities are proportionally related (e.g., by testing for equivalent ratios in a table, graphing on a coordinate plane and observing whether the graph is a straight line through the origin).	
M07.A-R.1.1.3 (Advanced)	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. Alternate Eligible Content Code M07AR1.1.3a: Represent a proportional relationship on a line graph	
M07.A-R.1.1.4 (Advanced)	Represent proportional relationships by equations. Example: If total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.	
M07.A-R.1.1.5 (Advanced)	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r), where r is the unit rate. Alternate Eligible Content Code M07AR1.1.5a: Interpret an ordered pair in a real-world problem	

 (* standards consolidated from Topic level)

Topic: Lesson 6.1 - Ratios and Rates

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.A-R.1.1.1 (Advanced)	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. Example: If a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2 / 1/4 miles per hour, equivalently 2 miles per hour. Alternate Eligible Content Code M07AR1.1.1a: Find the unit rate in a real-world problem

Topic: Lesson 6.2 - Identifying Proportions

Topic: Lesson 6.3 - Solving Proportions

Topic: Lesson 6.4 - Similar Figures and Proportions

Topic: Lesson 6.5 - Constant of Proportionality

STANDARDS

STATE: PA Core Anchors and Eligible Content (2014)

M07.A-R.1.1.2 (Advanced)	Determine whether two quantities are proportionally related (e.g., by testing for equivalent ratios in a table, graphing on a coordinate plane and observing whether the graph is a straight line through the origin).
M07.A-R.1.1.3 (Advanced)	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. Alternate Eligible Content Code M07AR1.1.3a: Represent a proportional relationship on a line graph
M07.A-R.1.1.4 (Advanced)	Represent proportional relationships by equations. Example: If total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.
M07.A-R.1.1.5 (Advanced)	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r), where r is the unit rate. Alternate Eligible Content Code M07AR1.1.5a: Interpret an ordered pair in a real-world problem

Topic: Lesson 6.6 - Slope (Algebra Tracking Classes Only)

Topic: Lesson 6.7 - Writing Linear Equations (Algebra Tracking Classes Only)

Topic: Lesson 6.8 - Graphing Linear Equations (Algebra Tracking Classes Only)

Topic: Lesson 6.9 - Linear Equations Word Problems (Algebra Tracking Classes Only)

Unit: Unit 7 - Percents

Topic: Lesson 7.1 - Percents, Decimals, and Fractions

Topic: Lesson 7.2 - Percent Problems (Part, Whole, Percent)

Unit: Unit 8 - Probability

This Curriculum Map Unit has no Topics to display

Unit: Unit 9 - Data and Statistics

This Curriculum Map Unit has no Topics to display