



Gulfport School District

HIGH SCHOOL PACING GUIDE

PRE-ALGEBRA

QTR	COMPETENCY/OBJECTIVES	
NUMBER AND OPERATIONS		
		1. Apply concepts and perform basic operations using real numbers in real-world context.
1.1		a. Define, classify, and order rational and irrational numbers and their subsets. (DOK 1)
1.1		b. Formulate and solve standard and real-life problems involving addition, subtraction, multiplication, and division of rational numbers. (DOK 2) See note at end of pacing guide.
1.2		c. Apply the concepts of Greatest Common Factor (GCF) and Least Common Multiple (LCM) to monomials with variables. (DOK 2)
1.1		d. Simplify and evaluate expressions using order of operations and use real number properties to justify solutions. (DOK 2)
1.2		e. Explain the rules of exponents related to multiplication and division of terms with exponents. (DOK 2)
2.1		f. Recognize and appropriately use exponential and scientific notation. (DOK 1) GSD 1: Convert between standard form and scientific notation in real-world situations. GSD 2: Multiply and divide numbers written in scientific notation.
2.2		g. Explain and use the inverse relationship between square roots and squares. (DOK 2)
ALGEBRA		
		2. Apply properties to simplify algebraic expressions, solve linear equations and inequalities, and apply principles of graphing.
1.1		a. Simplify and evaluate numerical and algebraic expressions. (DOK 1)
1.1		b. Apply properties of real numbers with an emphasis on the distributive properties of multiplication over addition and subtraction. (DOK 1)
1.1		c. Solve and check equations and inequalities using one variable. (DOK 2)
1.1		d. Model inequalities (and their solutions) on a number line. (DOK 1)
1.2		e. Graph linear equations and non-linear equations ($y = x^2$) using multiple methods including t-tables and slope-intercept. (DOK 2)
1.2		f. Given a linear graph, identify its slope as positive, negative, undefined, or zero, and interpret slope as rate of change. (DOK 2)
1.2		g. Determine slope, x-intercept, and y-intercept from a graph and/or equation in slope-intercept or standard form. (DOK 1)



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PRE-ALGEBRA

QTR	COMPETENCY/OBJECTIVES	
ALGEBRA (continued)		
2. Apply properties to simplify algebraic expressions, solve linear equations and inequalities, and apply principles of graphing.		
1.2		h. Add, subtract, and multiply monomials and binomials. (DOK 1) GSD 3: Classify and determine degree of a polynomial and arrange polynomials in ascending or descending order of a variable. GSD 4: Use the rules of exponents to multiply and divide monomials and to multiply monomials by polynomials.
1.2		i. Predict characteristics of a graph given an equation or t-table. (DOK 2)
GEOMETRY		
3. Identify and apply geometric principles to polygons, angles, and two- and three-dimensional figures.		
2.2		a. Locate and identify angles formed by parallel lines cut by a transversal (e.g., adjacent, vertical, complementary, supplementary, corresponding, alternate interior, and alternate exterior). (DOK 1)
2.2		b. Find missing angle measurements for parallel lines cut by a transversal(s) and for a vertex of a polygon. (DOK 1)
2.2		c. Explain the Pythagorean Theorem and apply it to solve routine and non-routine problems. (DOK 3)
2.2		d. Solve real-world and non-routine problems involving congruent and similar figures. (DOK 3)
2.2		e. Use two-dimensional representations (nets) of three-dimensional objects to describe objects from various perspectives. (DOK 2)
MEASUREMENT		
4. Understand measurable attributes of objects and apply various formulas in problem solving situations.		
2.1		a. Solve real-world application problems that include length, area, perimeter, and circumference using standard measurements. (DOK 2)
2.1		b. Develop, analyze, and explain methods for solving problems involving proportions, such as scaling and finding equivalent ratios. (DOK 3)
2.1		c. Use formulas and/or appropriate measuring tools to find length and angle measures (to appropriate levels of precision), perimeter, area, volume, and surface area of polygons, circles, spheres, cones, pyramids, and composite or irregular figures. (DOK 1)



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PRE-ALGEBRA

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DATA ANALYSIS and PROBABILITY	
	5. Interpret, organize, and make predictions about a variety of data using concepts of probability.
2.2	a. Use a given mean, mode, median, and range to summarize and compare data sets including investigation of the different effects that change in data values have on these measures. (DOK 2)
2.2	b. Select the appropriate measures of central tendency for a particular purpose. (DOK 2)
2.2	c. Make and list conjectures by calculating probability for experimental or simulated contexts. (DOK 3)
2.2	d. Construct and interpret scatter plots to generalize trends from given data sets. (DOK 3)

1.1 indicates the first 4.5 weeks of the first 9 weeks test.
 1.1 and 1.2 combined indicate a comprehensive 1st 9 weeks test.
 2.1 indicates the first 4.5 weeks of the second 9 weeks test.
 2.1 and 2.2 combined indicate a comprehensive 2nd 9 weeks test.

Note:

Although these types of problems are in the framework, it is quite possible that they will be among the “real-life” problems (1.b.) that students will encounter when working with rational numbers. Just a reminder ☺.

- 2.1
- **Solve proportions, including unit rate, scale, and measurement (part, rate, base).
Apply proportional reasoning to real-world problems.
- 2.1
- **Find commission, rates of commission, discount, sale price, sales tax, and simple interest, and apply to real-world situations.
- 2.1
- **Write, solve, and apply real-life problems using percents with and without calculators to include percent of increase or decrease.