

Explanation of Titles  
EOC Worksheets

Each worksheet contains problems designed to test specific mastery of specific frameworks. Worksheets are numbered by Strand and Standard, therefore Worksheet 2.4 would be Strand 2, Standard 4: Students will be able to solve and graph simple *absolute value equations* and *inequalities*, while 5.10 would be Students will be able to communicate real world problems graphically, algebraically, numerically and verbally.

Language of Algebra	1. Students will develop the language of algebra including specialized vocabulary, symbols, and operations.	
	1	Evaluate <i>algebraic expressions</i> , including radicals, by applying the order of operations
	2	Translate word phrases and sentences into <i>expressions, equations, and inequalities</i> , and vice versa
	3	Apply the laws of (integral) <i>exponents and roots</i> .
	4	*Solve problems involving <i>scientific notation, including multiplication and division</i> .
	5	Perform <i>polynomial</i> operations (addition, subtraction, multiplication) with and without manipulatives
	6	Simplify <i>algebraic fractions</i> by <i>factoring</i>
	7	Recognize when an expression is undefined
	8	Simplify <i>radical expressions</i> such as $\frac{3}{\sqrt{7}}$
	9	Add, subtract, and multiply simple radical expressions like $3\sqrt{20} + 7\sqrt{5}$ and $4\sqrt{5} * 2\sqrt{3}$
Solving Equations and Inequalities	2. Students will write, with and without appropriate technology, equivalent forms of equations, inequalities and systems of equations and solve with fluency.	
	1	Solve multi-step equations and inequalities with rational <i>coefficients</i> <ul style="list-style-type: none"> <li>• numerically (from a table or guess and check)</li> <li>• algebraically (including the use of manipulatives)</li> <li>• graphically</li> <li>• technologically</li> </ul>
	2	Solve systems of two linear equations <ul style="list-style-type: none"> <li>• numerically (from a table or guess and check)</li> <li>• algebraically (including the use of manipulatives)</li> <li>• graphically</li> <li>• technologically</li> </ul>
	3	Solve linear <i>formulas</i> and <i>literal equations</i> for a specified <i>variable</i> (Ex. Solve for p in $I = prt$ .)
	4	Solve and graph simple <i>absolute value equations</i> and <i>inequalities</i> (Ex. $ x  = 5$ , $ x  \leq 5$ , $ x  > 5$ )
	5	Solve real world problems that involve a combination of rates, <i>proportions</i> and percents
	6	Solve problems involving <i>direct variation</i> and indirect ( <i>inverse</i> ) <i>variation</i> to model rates of change
	7	Use coordinate geometry to represent and/or solve problems (midpoint, length of a line segment, and <i>Pythagorean Theorem</i> )
	8	Communicate real world problems graphically, algebraically, numerically and verbally

Linear Functions	3. Students will analyze functions by investigating rates of change, intercepts, and zeros.	
	1	Distinguish between <i>functions</i> and non-functions/ <i>relations</i> by inspecting graphs, ordered pairs, <i>mapping diagrams</i> and/or <i>tables</i> of data
	2	Determine <i>domain</i> and <i>range</i> of a relation from an algebraic expression, graphs, set of ordered pairs, or table of data
	3	Know and/or use <i>function notation</i> , including evaluating functions for given values in their domain
	4	Identify <i>independent variables</i> and <i>dependent variables</i> in various representational modes: words, symbols, and/or graphs
	5	Interpret the rate of change/ <i>slope</i> and intercepts within the context of everyday life (Ex. telephone charges based on base rate ( <i>y-intercept</i> ) plus rate per minute ( <i>slope</i> ))
	6	Calculate the slope given <ul style="list-style-type: none"> <li>• two points</li> <li>• the graph of a line</li> <li>• the equation of a line</li> </ul>
	7	Determine by using slope whether a pair of lines are parallel, perpendicular, or neither
	8	*Write an equation in <i>slope-intercept</i> , <i>point-slope</i> , and <i>standard</i> forms given <ul style="list-style-type: none"> <li>• two points</li> <li>• a point and y-intercept</li> <li>• <i>x-intercept</i> and y-intercept</li> <li>• a point and slope</li> <li>• a table of data</li> <li>• the graph of a line</li> </ul>
	9	Describe the effects of parameter changes, slope and/or y-intercept, on graphs of linear functions and vice versa
Non-linear Functions	4. Students will compare the properties in the family of functions.	
	1	Factoring polynomials <ul style="list-style-type: none"> <li>• greatest common factor</li> <li>• <i>binomials</i> (difference of squares)</li> <li>• <i>trinomials</i></li> </ul>
	2	Determine <i>minimum</i> , <i>maximum</i> , <i>vertex</i> , and <i>zeros</i> , given the graph
	3	Solve <i>quadratic equations</i> using the appropriate methods with and without technology <ul style="list-style-type: none"> <li>• <i>factoring</i></li> <li>• <i>quadratic formula</i> with real number solutions</li> </ul>
	4	Recognize function families and their connections including <i>vertical shift</i> and <i>reflection</i> over the <i>x-axis</i> <ul style="list-style-type: none"> <li>• quadratics (with rational coefficients)</li> <li>• <i>absolute value</i></li> <li>• <i>exponential functions</i></li> </ul>
	5	Communicate real world problems graphically, algebraically, numerically and verbally
Data Interpretation and Probability	5. Students will compare various methods of reporting data to make inferences or predictions.	
	1	Construct and use <i>scatter plots</i> and <i>line of best fit</i> to make <i>inferences</i> in real life situations
	2	Use simple matrices in addition, subtraction, and scalar multiplication
	3	Construct simple matrices for real life situations

	4	Determine the effects of changes in the data set on the measures of <i>central tendency</i>
	5	Use two or more graphs (i.e., <i>box-and-whisker</i> , <i>histograms</i> , <i>scatter plots</i> ) to compare <i>data sets</i>
	6	Construct and interpret a cumulative frequency <i>histogram</i> in real life situations
	7	Recognize <i>linear functions</i> and non-linear functions by using a table or a graph
	8	Compute simple <i>probability</i> with and without replacement
	9	Recognize patterns using <i>explicitly</i> defined and <i>recursively</i> defined linear functions
	10	Communicate real world problems graphically, algebraically, numerically and verbally
	11	*Explain how sampling methods, bias, and phrasing of questions in data collection impact the conclusions
	12	*Recognize when arguments based on data confuse correlation with causation