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| **Grade Level** Algebra I | | **Teacher/Room**: L.Payne/181 Week of: August 29-Sept 2 | | | |
| **Unit Vocabulary:** Algebraic expressions, variable, term, power, coefficient, equation, solution, identity, relation, domain, range, independent variable, dependent variable, function, intercept, line symmetry, end behavior, relative maximum, relative minimum. | | | | | |
| **Instructional Strategies Used:** direct instruction, independent study, interactive instruction, partners | | | | | |
| **Day 1** | **Day 2** | | **Day 3** | **Day 4** | **Day 5** |
| **Common Core Standard(s)**:  **A.REI.10** Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line.)  **F.IF.**1Understand that a function from one set (called the domain to another set called the range) assigns to each element of the domain, then f(x) denotes the output of f corresponding to the input x. The graph of *f* is the graph of equation y=f(x).  **MPS1.** | **Common Core Standard(s)**:  **F.IF.**1Understand that a function from one set (called the domain to another set called the range) assigns to each element of the domain, then f(x) denotes the output of f corresponding to the input x. The graph of *f* is the graph of equation y=f(x).  F.IF.2 Use function notation, evaluate functions for inputs in there domains, and interpret statements that use function notation in terms of context  **MPS3** | | **Common Core Standard(s)**:  **Chapter standards**  A.SSE.1a, A.SSE.2, A.SSE.1b,  A.SSE.2, N.Q.3, A.CED.1,A.REI.3, A.REI10,  F.IF.1, F.IF.2 | **Common Core Standard(s)**:  **MGSE9‐12.A.CED.1** Create equations and inequalities in one variable and use them to solve problems  **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. | **Common Core Standard(s)**:  **MGSE9‐12.A.CED.1** Create equations and inequalities in one variable and use them to solve problems  **MGSE9-12.A.SSE.1a** Interpret parts of an expression, such as terms, factors, and coefficients, in context. |
| **EQ Question:**  Why is the concept of a function important and how do I use function notation to show a variety of situations modeled by functions?  Can students interpret key features of graphs of functions? | **EQ Question:**  Can students interpret key features of graphs of functions? | | **EQ Question:**  Can students interpret key features of graphs of functions? | **EQ Question**:  How can you solve multi-step equations?  How do I interpret parts of an expression in terms of context? | **EQ Question**:  How can you solve multi-step equations?  How do I interpret parts of an expression in terms of context? |
| **Mini Lesson:**  Check section 1.6, 1.7  **Activating Strategies:**  Graphing tech lab representing functions  Lesson: 1.7, 1.8  **Resource/Materials:**  Textbook  Calculator  Graph paper  Ruler | **Mini Lesson:**  Check section 1.7, 1.8  **Activating Strategies:**  Vocabulary quiz  1.8, Chapter 1 Review  **Resource/Materials:**  Textbook  Calculator  Graph paper  Ruler | | **Mini Lesson:**  Check Study Guide and Review  **Activating Strategies:**  Warm up with calculator  Lesson: TEST  **Resource/Materials:**  Textbook  Calculator  Graph paper  Ruler | **Mini Lesson:**  Solving equations  **Activating Strategies:**  Give back test  Lesson: 2.1  **Resource/Materials:**  Text, calculator, graph paper | **Mini Lesson:**  Check homework  **Activating Strategies:**  Real world example of equations  Lesson: Section 2.2  Section 2.3  **Resource/Materials:**  Text, calculator, graph paper |
| **Differentiation:**  *Content/Process/Product:*  *Grouping Strategy:* | **Differentiation:**  *Content/Process/Product:*  *Grouping Strategy:* | | **Differentiation:**  *Content/Process/Product:*  *Grouping Strategy:* | **Differentiation:**  *Content/Process/Product:*  *Grouping Strategy:* | **Differentiation:**  *Content/Process/Product:*  *Grouping Strategy:* |
| **Assessment :**  **Student portfolio and homework** | **Assessment:**  **Student portfolio and homework** | | **Assessment:**  ***TEST*** | **Assessment:**  **Student portfolio and homework** | **Assessment:**  **Student portfolio and homework** |
| **Homework:**  1.8 practice and Problem solving | **Homework:**  Chapter Review and Test | | **Homework:**  Test | **Homework:**  2.1 | **Homework:**  2.2,  2.3. |

Resources and Reflective Notes:

UNIT 1 VOCABULARY

1.**Algebra:** The branch of mathematics that deals with relationships between numbers, utilizing letters and other symbols to represent specific sets of numbers, or to describe a pattern of relationships between numbers.

2. **Binomial Expression:** An algebraic expression with two unlike terms.

3. **Capacity:** The greatest volume that a container can hold.

4. **Circumference:** The distance around a circle.

5. **Coefficient:** A number multiplied by a variable.

6. **Constant Term:** A quantity that does not change its value.

7. **Expression:** A mathematical phrase involving at least one variable and sometimes numbers and operation symbols.

8. **Factor:** When two or more integers are multiplied, each integer is a factor of the product. "To factor" means to write the number or term as a product of its factors.

9. **Integer:** The set of numbers ...,–3,–2,–1,0,1,2,3,…

10. **Irrational Number:** A number whose decimal form is nonterminating and nonrepeating. Irrational numbers cannot be written in the form a/b, where a and b are integers (b cannot be zero). So all numbers that are not rational are irrational.

11. **Monomial Expression:** An algebraic expression with one term.

12. **Perimeter**: The sum of the lengths of the sides of a polygon.

13. **Polynomial function:** A ***polynomial function*** is defined as a function,

*f(x)= ao xn + a1 xn-1 + a2 xn-2 + … + an-2 x2 + an-1 x1 + an ,* where the coefficients are real numbers.

14. **Pythagorean Theorem:** It is a theorem that states a relationship that exists in any right triangle. If the lengths of the legs in the right triangle are *a* and *b* and the length of the hypotenuse is *c*, we can write the theorem as the following equation: *a* 2 + *b* 2 = *c* 2

15. **Radical:** The symbol,√𝑎𝑏, which is read "the bth root of a," is called a radical.

16. **Radicand:** The number underneath the root symbol. So, in√𝑎𝑏, the *a* is called the radicand.

**Rational Number:** A number expressible in the form *a*/*b* or – *a*/*b* for some fraction *a*/*b*. The rational numbers include the integers.

18. **Standard Form of a Polynomial**: To express a polynomial by putting the terms in descending exponent order.

19.**Term:** A number, a variable, or a product of numbers and variables.

20.**Trinomial**: An algebraic expression with three unlike terms.

21. **Variable:** A letter or symbol used to represent a number.

22. **Volume:** The amount of space occupied by an object.

23.**Whole numbers:** The numbers 0, 1, 2, 3, ….

**The properties of operations**. Here *a*, *b* and *c* stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

*Associative property of addition* (*a + b*) *+ c = a +* (*b + c*)

*Commutative property of addition a + b = b + a*

*Additive identity property of 0 a +* 0 *=* 0 + *a* = *a*

*Existence of additive inverses* For every *a* there exists –*a* so that *a* + (–*a*) = (–*a*) + *a* = 0.

*Associative property of multiplication* (*a* × *b*) × *c = a* × (*b* × *c*)

*Commutative property of multiplication a* × *b = b* × *a*

*Distributive property of multiplication over addition a* × (*b* + *c*) *= a* × *b* + *a* × *c*

Definitions and activities for these and other terms can be found on the Intermath website http://intermath.coe.uga.edu/dictnary/homepg.asp