Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_

**Algebra Common Core: Unit 1 Review**

**The Real Number System**

I can classify numbers as either rational or irrational.

see Quiz 1: problems 2 and 5

***Examples:***

|  |  |
| --- | --- |
| 1. | 2. |

**Variables and Expressions**

I can distinguish the difference between an algebraic expression, equation, and inequality.

I know and can use the Order of Operations to evaluate expressions.

see Quiz 1: problems 3 and 4

***Examples:***

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. An example of an algebraic expression is   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | | 4. What is the value of the expression when | 5. What is the value of |

**The Properties of Real Numbers**

I can identify and apply the properties of real numbers, including the Commutative Property, Associative Property, and Distributive Property to write equivalent expressions.

see Quiz 1: problems 1, 6, and 9

**Equivalent Expressions**

I can apply the distributive property and combine like terms to find equivalent expressions.

see Quiz 1: problems 7 and 8

see Quiz 2: problem 2

***Examples:***

|  |  |  |
| --- | --- | --- |
| 6. Which expression is equivalent to the following:  (1)  (2)  (3)  (4) | 7. Using the properties of real numbers, write the following expression as a binomial in simplest form: | 8. Write the following in simplest form: |

**Exponents as Repeated Multiplication**

I understand that exponents are repeated multiplication and can use this definition, or Exponent Rule #1, to write equivalent expressions for the product of two or more monomials.

Exponent Rule #1: Exponent Rule #2: \*\*use with caution!!

see Quiz 2: problems 4, 5 and 6

***Examples:***

|  |  |
| --- | --- |
| 9. What is the product of  ? | 10. Express in simplest form: |

**More Complex Equivalency**

I can apply the distributive property twice (“double distribute”) to multiply binomials and combine like terms to find equivalent expressions.

see Quiz 2: problems 1, 7 and 8

***Examples:***

|  |  |
| --- | --- |
| 11. Simplify: | 12. Expand and simplify: |

**Translating English to Algebra**

I can translate a verbal phrase into an algebraic expression.

key words: sum, more than, greater than, difference, less than, product, times, times greater than, twice, double, triple, quotient, ratio

see Quiz 2: problems 3 and 9

***Examples:***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. Which algebraic expression represents 15 less than *x* divided  by 9?   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | | 14. Tim ate four more cookies than Alice. Bob ate twice as many cookies as Tim. If *x* represents the number of cookies Alice ate, which expression represents the number of cookies Bob ate?   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | | 15. A correct translation of “six less than twice the value of *x*” is   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | |

**Word Problems**

* perimeter and area of rectangles and triangles, consecutive integers

see Quiz 3: problem 3

***Examples:***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16. The width of a rectangle is 3 less than twice the length, *x.* If the area of the rectangle is 43 square feet, which equation can be used to find the length, in feet?   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | | 17. What is the perimeter of a regular pentagon with a side whose length is ?   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | | 18. If *n* is an odd integer, which equation can be used to find three consecutive odd integers whose sum is ?   |  |  | | --- | --- | | 1) |  | | 2) |  | | 3) |  | | 4) |  | |