

## South Seminole Middle School Summer Review for Algebra 1 2015

### **Dear Student and Parent,**

These are the algebraic skills needed for success in Algebra 1. If you do not remember how to do some of the problems, search the boldfaced topic on the internet and you will find multiple sites that will re-teach them to you. It is suggested that you work on this worksheet one to two weeks prior to the school year in order to refresh your memory and to get you into "math" mode. This assignment will be collected the first week of class. I will be available for questions during this week.

For the following exercises, show all work on a **separate sheet of paper** and do **not** use a calculator. Leave all answers as simplified fractions. At South Seminole Middle School, the work is more important than the answer. **All work must be shown** for each problem, neatly and in sequential order (even multiplication).

We look forward to helping you learn Algebra 1 next year, Go Hurricanes!!!!

### **Part I: Vocabulary**

Fill in the blank with the correct definition. Not all words will be used. (Rewrite sentences on separate paper).

**Variable**  
**Simplify**  
**Median**

**Denominator**  
**Term**  
**Slope**

**Coefficient**  
**Mode**  
**Product**

**Mean**  
**Exponent**

- 1) The middle number of a set of numbers is the \_\_\_\_\_.
- 2) A letter that can have different values. In  $4a^2$ , the **a** is the \_\_\_\_\_.
- 3) The slant or steepness of a line is the \_\_\_\_\_.
- 4) The \_\_\_\_\_ is the number that occurs the most in a set of numbers.
- 5) A number in front of the variable. In  $4a^2$ , the **4** is the \_\_\_\_\_.
- 6) A number to the right of and above a number or variable. In  $4a^2$ , the **2** is the \_\_\_\_\_.
- 7) A number, a variable, the product or quotient of numbers and/or variables is called a(n) \_\_\_\_\_.
- 8) The \_\_\_\_\_ is the average of a set of numbers.

### **Part 2: Order of Operations**

Simplify the following.

9)  $2 + 7$

10)  $-22 + 9$

11)  $13 + 6 - 7$

12)  $2 + (4 - 9) - 10$

13)  $6(7)$

14)  $-3 \cdot 6$

15)  $24 \div -4$

16)  $2^2 + 6 \div 3(-2)$

17)  $\frac{5}{7} + \frac{1}{14}$

18)  $\frac{6}{12} - \frac{2}{3}$

19)  $\frac{2}{3} \cdot \frac{4}{7}$

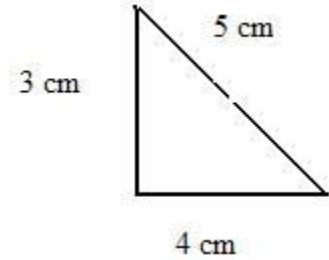
20)  $\frac{4}{5} \div \frac{3}{20}$

### Part 3: Perimeter and Area

21) Find the perimeter and area of a rectangle with sides 12 feet and 5 feet.

22) Find the perimeter and area of the triangle below.

NOTE: Also review the perimeter and area of all two dimensional shapes



### Part 4: Simplifying Expressions

Simplify the following.

23)  $3y + 4y$

24)  $3(t+5)$

25)  $8x + 3(x-1)$

### Part 5: Evaluating Expressions

Evaluate the following expressions when  $x = -8$  and  $y = 2$

26)  $xy$

27)  $(y+3)^2$

### Part 6: Translating Verbal to Symbolic

Express each phrase as an algebraic expression.

28) add a number  $h$  and 12

29) 7 times a number  $k$

### Part 7: Graphing and the Coordinate Plane

Graph the following on your own coordinate plane and state the **quadrant** in which each coordinate lies. Label the axes and the origin.

30)  $A(-3, 4)$

31)  $B(5, -7)$

32)  $C(1, 7)$

33)  $D(-2, -5)$

34) Graph the following Lines on a Coordinate Plane

a)  $y = 3x + 5$

b)  $y = \frac{-5}{2}x + 3$

### Part 8: Solving Equations

Solve the following.

35)  $w + 7 = 21$

36)  $3x = -9$

37)  $2x + 3 = 11$

38)  $\frac{p}{2} + 10 = 14$

39)  $-18 - 6k = 6(1 + 3k)$

40)  $-3(4x + 3) + 4(6x + 1) = 43$

### Part 9: Properties of Exponents.

Review the Exponent rules and simplify the exponents.