**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block\_\_\_\_\_\_\_\_**

**Algebra 1: Verbal Expressions, Order of Operations and Properties Test**

1. **Kristina, the oldest member of the cheer squad at Nansemond River High School, is 8 years less than one-half the age of the coach. If the coach is x years old, write an expression that describes Kristina’s age.**

SOL A1.1

**2 Which statement correctly represents ?**

1. The number x increased by the square root of 9

SOL A1.1

1. The number x plus the cube root of 9
2. The sum of x and 9 cubed
3. The number x decreased by the square root of 9

**3 The height of a triangle is 7 units less than *b*, its base. Write an expression to represent the area of the triangle (Formula: A = )**

SOL A1.1

**4 Write an expression that correctly describes ”the quotient of a number cubed and 4”?**

SOL A1.1

**5**

**Directions: Match each verbal expression to the correct algebraic expression by writing the letter (A – F) from each box underneath it’s correct algebraic expression.**

SOL A1.1

**5 – 4x**

**4x – 5**

***A* The difference of five and four times x**

***B* The product of 4 and x decreased by 5**

***C* Five decreased by four times x**

***D*  Five minus four times x**

***E* Five less than four times x**

***F*  Five minus the product of four and x**

**6 Write a verbal expression for the algebraic expression 2(x + y).**

SOL A1.1

**7 Write an algebraic expression for “2 times the sum of x cubed and 3”.**

SOL A1.1

**8 What is the value of when *x*** **= 5 and = -2?**

SOL A1.1

**9 What is the value of**   **when m = 2?**

SOL A1.1

SOL A1.3

**10 What is the value of the expression when x = 6, y = 4, and z = 2?**

SOL A1.1

**11 What is the value of the expression when a = 2 and b = 5?**

SOL A1.1

SOL A1.3

**12 Evaluate the expression when a = -8 and c = 10.**

SOL A1.1

**13 What is the value of the expression 2 (*x* + 3) – 4, if *x* = 4 and = -2?**

SOL A1.1

**14**

**Directions: Write your answer in the box. Your answer must be in the form of a fraction in simplest form. Use “/” for the fraction bar.**

SOL A1.1

SOL A1.3

**What is the value of when x = 4?**

**Your answer must be in the form of a fraction in simplest form.**

**15 The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_property states that any quantity is equal to itself. An example would be x = x.**

SOL A1.4b

**16 What property allows you to write 2x – 3x as (2 – 3)x?**

SOL A1.4b

**17 Which property allows you to write (2x + 4) + 5 = 10 as 2x + (4 + 5) = 10?**

SOL A1.4b

**18 Which property states 2x3(0) is equivalent to 0?**

SOL A1.4b

**19 Hailey needs 36 inches of material make a table cloth. The grocery store only sells material by the yard. Hailey knows that 12 inches is equal to 1 foot and that 3 feet is equivalent to 1 yard. Hailey concludes that 36 inches equals 1 yard. What property is modeled by this situation?**

SOL A1.4b

**20 Simplify the expression using the distributive property.**

Sol A1.4b

**2 (4x + 8c – 9) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**21 Which property is illustrated by the following statement?**

Sol A1.4b

**22 Which is an example of the multiplicative identity property?**

****

**F** 4x● 1 = 4x **H**  4x(0) = 0

**G**  4x + y = y + 4x **J**  4x + 0 = 4x

**Directions: Write your answer in the box using the property indicated by the question.**

**23**

****

**Rewrite the following equation using the symmetric property.**

**5x + 9 = –4**

**24 If 2x = 4, what property of equality justifies writing**



***y + 2x = 4y + 10***

**as *p + 4 = 4y + 10*?**

**25 Name each property illustrated below.**

**A** 4+ 3*x* = 4 + 3*x \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_

**B** 4 + 3x = 3x + 4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**C** 3(*x* + 4) = 3*x* + 12 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**D** (3 + 12)*x* = *x*(3+ 12) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**26. Find the value of 24 ÷ 3 + 5 + 22 – 15. Then change one operation sign**

SOL A1.1

**and add one set of grouping symbols so that the value of the expression is 14.**