Name: Date:

Algebra 1: Chapter 1 test

1. **Evaluate when a = -3 and b = -5**
   1. 16.2 b. 23 c. 19.8 d. 5
2. **Three instances of a pattern are given below. Describe the pattern by using one variable.**

**7∙ 4 – 2 ∙ 4 + 1 ∙ 4 = 2 ∙ 4**

**7∙ .2 – 2 ∙ .2 + 1∙ .2 = 2 ∙ .2**

**7∙ -8 – 2 ∙ -8 + 1 ∙ -8 = 2 ∙ -8**

a. y∙ 4 – y ∙ 4 + y ∙ 4 = y ∙ 4 b. 7 ∙ z – 2 ∙ z + 1 ∙ z = 2 ∙ z c. 7x – 2y + 1z = 2a d. 4c – 2d + 1e = 2f

1. **Which multiplication property is illustrated in 2 ∙ p = p ∙ 2?**

a. Associative only b. commutative only c. Both associative and d. neither associative

commutative nor commutative

1. **Which multiplication property is illustrated in 5 ∙ (81x ∙ 10) = (5 ∙ 10) ∙ 81x ?**

a. Associative only b. commutative only c. Both associative and d. neither associative

commutative nor commutative

1. **The expression 25g – 2(16h) + 3j has how many terms?**
   1. 2 b. 3 c. 4 d. -4
2. **Which expression does not equal the others?**
   1. b. c. d.
3. **Which of the following is a counterexample to the equation |x + 3| = x + 3** 
   1. x = -5 b. x = 7 c. -2 d. 3
4. **Consider the expression (a – 2) + 3a + 4. Which would be an accurate table of values for this expression?**

B.

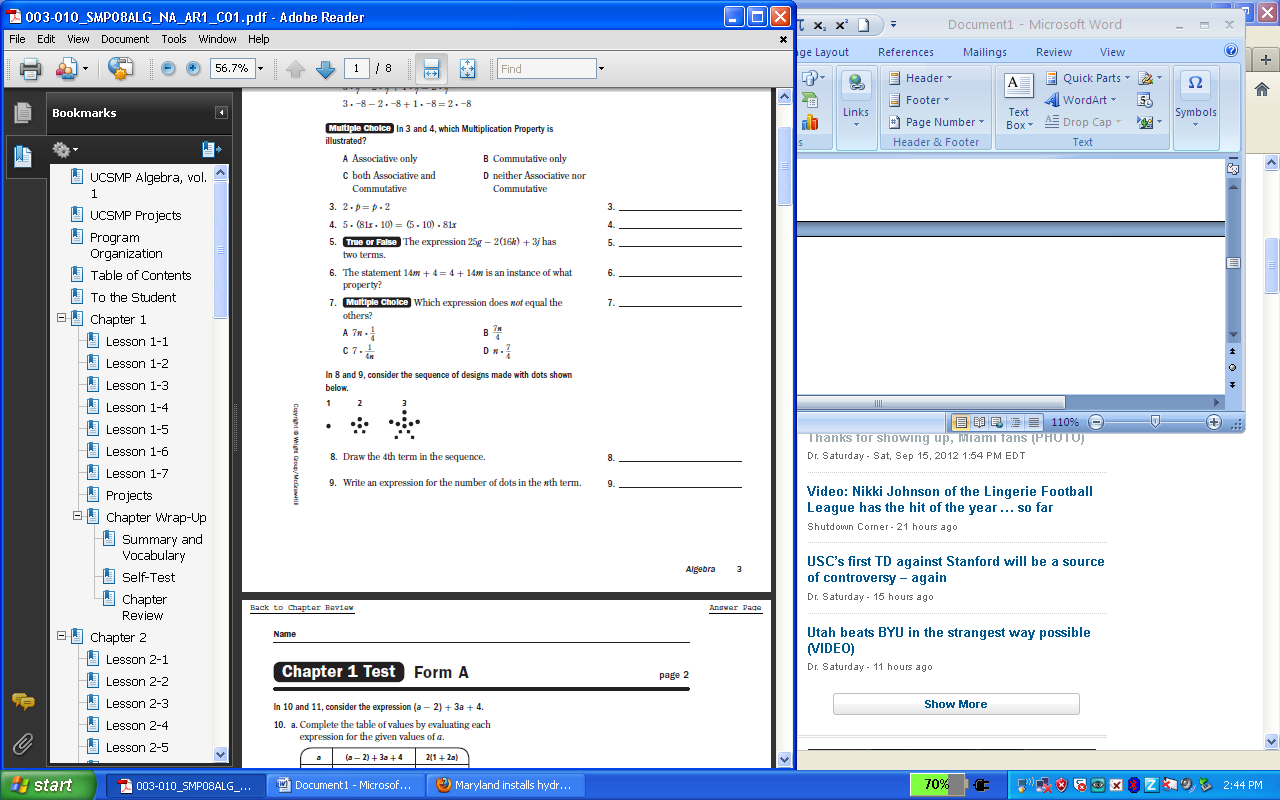
|  |  |
| --- | --- |
| **a**  A. | **(a-2) + 3a + 4** |
| **-3** | **9** |
| **0** | **3** |
| **2** | **1** |

|  |  |
| --- | --- |
| **a** | **(a-2) + 3a + 4** |
| **-3** | **-7** |
| **0** | **4** |
| **2** | **7** |

|  |  |
| --- | --- |
| **a**  C. | **(a-2) + 3a + 4** |
| **-3** | **0** |
| **0** | **2** |
| **2** | **7** |

|  |  |
| --- | --- |
| **a**  D. | **(a-2) + 3a + 4** |
| **-3** | **-10** |
| **0** | **2** |
| **2** | **10** |

1. **Re-write the expression only using multiplication 2x ÷ 4y**
   1. *2x ∙ 4y* b. *c. 4y ∙ 2x* d.
2. **Are the expressions (a – 2) + 3a + 4 and 2(1 + 2a) equivalent?**
   1. Yes b. no c. don’t pick this one! d. this answer is wrong!
3. **Are the expressions x2 – 4 and (x – 2)2 are equivalent?**
   1. Yes b. no c. don’t pick this one! d. this answer is wrong!
4. **Consider the following situation. The cost of a 32-inch television from Electronic Empire is $425.75, and the cost of a 20-inch tv is $143.98. Let x = the number of 32-inch tvs purchased, and let y = number of 20-inch tv purchased. An expression describing the total cost of all tvs bought is:**
   1. x + y b. 425.75 + 143.98 c. 425.75 + 143.98y d. 425.75x + 143.98y
5. **Given the numbers, 92, 9, 15, 92, 37 ; the mean, median, and mode (listed in that order) are:**
   1. 49, 37,92 b. 37, 92, 49 c. 92, 37, 49 d. 49, 92, 37

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1. **Draw the fourth instance of the pattern.**
2. **How many dots are needed for the 7th instance?**
3. **Write an expression to determine the number of dots in the nth expression.**
4. **Brett was given the problem: “evaluate 2x2 + 5 when x = 3”. Brett wrote that the answer was 41. Was Brett correct? Explain your answer.**
5. **Make a table and a graph for the equation y = |x – 3| using the following values for x: -4, -1, 3, 5. Don’t forget to connect the dots!**

|  |  |
| --- | --- |
| **x** | **Y = |x – 3|** |
| **-2** |  |
| **-1** |  |
| **3** |  |
| **5** |  |

