

Grade 9 Pre-AP Math  
Unit 1 Quiz – How well do you *UNDERSTAND* Algebra?

55

Victim: \_\_\_\_\_

**Terminology (10 marks, 1 mark each)**1. Match each term in the left column with the *best* definition or description in the right column.

- |                   |   |
|-------------------|---|
| ___ Expression    | <b>A.</b> Terms that contain exactly the same variable part.  |
| ___ Simplify      | <b>B.</b> A polynomial with exactly three terms.  |
| ___ Polynomial    | <b>C.</b> A symbol, usually a letter, which represents an unknown or unspecified value.   |
| ___ Equation      | <b>D.</b> $-213ab^2$  |
| ___ Like Terms    | <b>E.</b> Write a mathematical expression in a simpler form.  |
| ___ Factor        | <b>F.</b> Any mathematical calculation combining constants and/or variables using any valid mathematical operations.                                      |
| ___ Degree-3 Term | <b>G.</b> A number that can be exactly divided into another.  |
| ___ Trinomial     | <b>H.</b> An algebraic expression in which <i>each term</i> consists of constants and/or variables combined using only multiplication (including powers). |
| ___ Variable      | <b>I.</b> $5^3$   |
| ___ Degree-0 Term | <b>J.</b> A mathematical statement asserting that two expressions are equal.  |

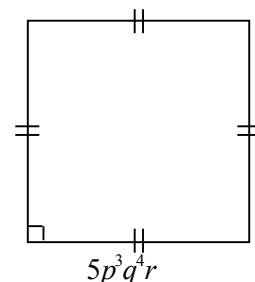
**Modified True/False (5 marks, 0.5 marks for each blank)**Indicate whether each statement is *true* or *false*. If false, *change* the *underlined part* to make the statement true.

2. T/F \_\_\_\_\_  $2^4(3^{-4}) = 6^{-4+4} = 6^0$  **Change:** \_\_\_\_\_
3. T/F \_\_\_\_\_ The expression " $-c^6$ " means " $(-c)(-c)(-c)(-c)(-c)(-c)$ ." **Change:** \_\_\_\_\_
4. T/F \_\_\_\_\_ The expression " $6 - x$ " means "a number reduced by 6." **Change:** \_\_\_\_\_
5. T/F \_\_\_\_\_ The expression " $2x^2 + 3x^2$ " *simplifies to* " $6x^4$ ." **Change:** \_\_\_\_\_
6. T/F \_\_\_\_\_ The expression " $2x^2(3x^2)$ " *simplifies to* " $5x^2$ ." **Change:** \_\_\_\_\_

**Multiple Choice (2 marks)**

Identify the choice that best completes the statement or answers the question. Use the provided blank space to write the letter corresponding to your choice.

7. \_\_\_\_\_ Which expression represents the area of the square shown at the right?  
 (a)  $20p^3q^4r$       (b)  $20p^6q^8r^2$       (c)  $10p^6q^8r^2$       (d)  $25p^6q^8r^2$
8. \_\_\_\_\_ The expression  $-2(-3c^7d^{-4})^3$  simplifies to ...  
 (a)  $6c^{10}d^{-1}$       (b)  $216c^{21}d^{-12}$       (c)  $54c^{21}d^{-12}$       (d)  $54c^{10}d^{-1}$



**Full Solutions**

**9. Evaluate. (8 marks)**

**(a)**  $-5(4^2 - 12^2) - 5(4 - 12)^2$

**(b)**  $-3a^{-2}b^2 - 5a(a-b)^2$ , if  $a=3$  and  $b=-2$

**10. Simplify. (30 marks)**

**(a)**  $-3x^2y - 5xy^2 + 2x^2y - 7xy^2$

**(b)**  $-3x^2y(-5xy^2)(+2x^2y)(-7xy^2)$

**(c)**  $-3x^2y - 5xy^2(+2x^2y - 7xy^2)$

**(d)**  $-(-7s^2 + 11s) - (9s^2 - 2s)$

**(e)**  $-3(2d^2 - 8d - 5) - 3d(d^2 - 8d - 2)$

**(f)**  $\frac{32b^9d^2(-bd^4)}{2^3(2b^3d)^2}$

**(g)**  $(2y^{-3})^{-4} + 2^{-3}y^6(-3y^6)$

**(h)**  $\left(\frac{2a^2}{3a^{-4}b^{-1}}\right)^{-3}$