NAME _____   **DATE** _____

Module Test Ⓐ

Module 2

1. Identify the coefficient of each monomial.

   a. $7k$ __**7**_____   b. $\frac{m}{5}$ __**$\frac{1}{5}$**_____

   c. $-x$ __**−1**_____   d. $-7.64B$ __**−7.64**_____

2. Give an example of a term satisfying the given condition. **possible answers given**

   a. has a coefficient of –3 and two variables __**−3xy**_____

   b. has a squared variable, with a coefficient of $-\frac{2}{3}$ __**$-\frac{2}{3}x^2$**_____

   c. has a decimal coefficient, with a single variable __**8.6y**_____

   d. is a constant __**−11**_____

3. Identify each polynomial as a *monomial, binomial,* or *trinomial.*

   a. $53xy^2z$ __**monomial**_____   b. $5c + 11$ __**binomial**_____

   c. $r^2 - 5r + 9$ __**trinomial**_____   d. $mn + m - n$ __**trinomial**_____

4. Find the degree of each polynomial.

   a. $7p$ __**1**_____   b. -15 __**0**_____

   c. $5a^5b + 3a^4b^2 - 2ab + 1$ __**6**_____   d. $\frac{2g^2h}{9} + \frac{7gh^3}{3}$ __**4**_____

5. Give an example of each of the following. **possible answers given**

   a. monomial __**8x**_____   b. binomial __**x + 3**_____

   c. trinomial __**$x^2 + 3x + 7$**_____   d. monomial with three variables __**abc**_____

Write an algebraic expression for each word phrase.

6. three more than the cube of y __**$y^3 + 3$**_____

7. the sum of a number and six __**N + 6**_____

8. nine less than a number x __**x − 9**_____

9. 17 less than the product –11 times a number V __**−11V − 17**_____

10. one-half of the sum of a number and twelve __**$\frac{1}{2}(x + 12)$**_____

Name the property each statement illustrates.

11. $7(3 + 5) = (3 + 5)7$ **Commutative Property of Multiplication**

12. $5(g - 2) = 5g - 10$ **Distributive Property of Multiplication**

13. $7T + (-7T) = 0$ **Additive Inverse Property**

14. $a + (b + c) = (a + b) + c$ **Associative Property of Addition**

Write the opposite and the reciprocal of each expression, if possible.

15. a. $-\dfrac{6y}{5}$ **opposite: $\dfrac{6y}{5}$;   reciprocal: $-\dfrac{5}{6y}$**

b. 0 **opposite: No opposite;   reciprocal: No reciprocal**

Simplify each expression, if possible.

16. $9u + u$ **$10u$**

17. $3 - x + 7x - 9 - 2x + 3x^2$ **$3x^2 + 4x - 6$**

18. $h(3h + 5) - 7h + 2.5(4h - 10)$ **$3h^2 + 8h - 25$**

19. $m^3 + 7m^4 - 16m + 3m^2 + 7m - 3m^2 - 7$ **$7m^4 + m^3 - 9m - 7$**

20. $7 - 4(3d - 6)$ **$-12d + 31$**

21. Evaluate $t^3v^2 + 2t^2v^3 - t + 6v$ for $t = -1$ and $v = 3$ **64**

Evaluate the expression $\sqrt{b^2 - 4ac}$ for the given values of the variables.

22. $a = 1, b = 3, c = 2$ **1**

23. $a = 1, b = -5, c = -6$ **7**

Evaluate each expression when $x = 3$, $y = 0$, and $z = -\dfrac{1}{2}$.

24. $\dfrac{8z + x^2y^2 - 2x}{14z + 2x - 7y}$ **10**

25. $x^2 + y^2 - 2z + 3xy^3 - |xz|$ **$\dfrac{17}{2}$ or $8\dfrac{1}{2}$**