

**Test 8—Test on Chapter 4** (Form A)**Directions:** Write answers in the spaces provided.**Questions 1–3.** Rewrite each expression in exponential form.

- Five times the cube of  $y$
- The cube of the sum of  $r$  and 2
- One-half the second power of  $g$

**Questions 4–5.** (a) Add the polynomials. (b) Subtract the lower polynomial from the upper one.

4. 
$$\begin{array}{r} 5x^2 - 21x + 4 \\ -x^2 - 11x + 6 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} x^2 + 2x - 3 \\ 3x^2 - 2x - 8 \\ \hline \end{array}$$

**Questions 6–11.** Simplify.

- |                      |                    |                                       |
|----------------------|--------------------|---------------------------------------|
| 6. $2x^3 \cdot 5x^2$ | 7. $(x^2)(x^3)(x)$ | 8. $(-2a^2b^2)(5a)$                   |
| 9. $(8m)(2mn)^3$     | 10. $-(3m^2n^3)^2$ | 11. $9n^3\left(\frac{1}{3}n\right)^4$ |

**Questions 12–17.** Multiply.

- |                        |                               |
|------------------------|-------------------------------|
| 12. $-6(a^2 - 2a + 1)$ | 13. $(-2a)(a^2 - 3a)$         |
| 14. $(a - b)(a + 3b)$  | 15. $(x - 5y)^2$              |
| 16. $(2x + 3)(5x + 1)$ | 17. $(a + b)(a^2 - ab + b^2)$ |

**Questions 18–21.** Solve for the variable indicated.

- |                                  |                                  |
|----------------------------------|----------------------------------|
| 18. $A = \frac{1}{2}(m + 22); m$ | 19. $P = 2b + 2h; b$             |
| 20. $3ax - 2 = 5ax - 1; x$       | 21. $A = \frac{1}{2}h(a + b); h$ |

**ANSWERS**

1. \_\_\_\_\_ (2)

2. \_\_\_\_\_ (2)

3. \_\_\_\_\_ (2)

4. a. \_\_\_\_\_ (2)

b. \_\_\_\_\_ (2)

5. a. \_\_\_\_\_ (2)

b. \_\_\_\_\_ (2)

6. \_\_\_\_\_ (3)

7. \_\_\_\_\_ (3)

8. \_\_\_\_\_ (3)

9. \_\_\_\_\_ (3)

10. \_\_\_\_\_ (3)

11. \_\_\_\_\_ (3)

12. \_\_\_\_\_ (3)

13. \_\_\_\_\_ (3)

14. \_\_\_\_\_ (3)

15. \_\_\_\_\_ (3)

16. \_\_\_\_\_ (3)

17. \_\_\_\_\_ (3)

18. \_\_\_\_\_ (5)

19. \_\_\_\_\_ (5)

20. \_\_\_\_\_ (5)

21. \_\_\_\_\_ (5)

*(continued)*