LESSON 8.1

NAME _____ DATE _____

Practice B

For use with pages 450–455

Use the product of powers property to simplify the expression.

1. $4 \cdot 4 \cdot 4$
2. $n \cdot n \cdot n \cdot n$
3. $2^2 \cdot 2^3$
4. $x^2 \cdot x \cdot x^3$
5. $5^2 \cdot 5^4$
6. $c \cdot c \cdot c \cdot c^2$
7. $t^2 \cdot t^5 \cdot t$
8. $m^3 \cdot m \cdot m^4$
9. $x \cdot x^2 \cdot x^3 \cdot x^4$

Use the power of a power property to simplify the expression.

10. $(4)^2$
11. $(-5)^3$
12. $(6^2)^1$
13. $(3g)^3$
14. $(ab)^2$
15. $(ht^2)^3$
16. $(x^5)^6$
17. $(y^3)^7$
18. $(x^6y^3)^3$

Simplify, if possible. Write your answer as a power or as a product of powers.

19. $4^2 \cdot 4^3$
20. $(9^2)^5$
21. $(-4a)^2$
22. $[(-6)^2]^3$
23. $[(-6x^2y)^3]^7$
24. $[(3x - 2)^3]^3$
25. $(5x)^4 \cdot (-4x)^3$
26. $(8ab)^2 \cdot 4a^9$
27. $\left(\frac{1}{4}x^4\right)^2$
28. $(a^2bc^3)^4 \cdot (b^2c)^3$
29. $(-x)^3(-x)^5(-x)^8$
30. $(-2x^2y)(x^3y^2)^3$

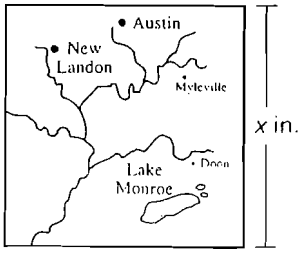
Simplify. Then evaluate the expression when $x = 2$ and $y = 2$.

31. $y^2 \cdot y^4$
32. $(x^2)^2$
33. $(-x^3) \cdot x^2$
34. $(x \cdot y^3)^3$
35. $-(x^3y)^2$
36. $(y^4 \cdot y) \cdot (x)^4$

37. ***Probability*** A multiple choice test has two parts. There are 4^{12} ways to answer the 12 questions in Part A. There are 4^5 ways to answer the 5 questions in Part B. How many ways are there to answer all 17 questions? If you guess each answer, what is the probability you will get them all right?

38. ***Nickels*** Someone offers to double the amount of money you have every day for 1 month (30 days). You have 1 nickel. On the first day, you will have 2 nickels worth \$.10. On the second day, you will have 4 nickels worth \$.20. How much money will you have on the 30th day? Use the expression $0.05 \cdot (2)^{30}$ to answer the question.

39. ***Maps*** The scale of a square map indicates that each inch on the map corresponds to 5 miles. Write an expression that describes the area of land shown on the map. If the map is 8 inches on one side, what is the area of land shown on the map?



Copyright © McDougal Littell Inc.
All rights reserved