

Practice C

For use with pages 450–455

Use the product of powers property to simplify the expression.

1. $x \cdot x \cdot x \cdot x \cdot x$

2. $3^3 \cdot 3^2$

3. $y^7 \cdot y \cdot y^2$

4. $z^9 \cdot z^3 \cdot z^5$

5. $6^4 \cdot 6^6 \cdot 6^1$

6. $t^3 \cdot t^3 \cdot t^3$

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

7. $(4x)^2$

8. $(5x^2)^2$

9. $(2t^2)^3$

10. $(m^2 \cdot n^5)^2$

11. $(-2w^3)^4$

12. $(-3y^2)^3$

Simplify, if possible. Write your answer as a power.

13. $(2)^3(2)^5$

14. $(8^3)^2$

15. $(-2x^2y^3)^2$

16. $(-3a^2c) \cdot (3b^3c^7)^4$

17. $(\frac{1}{2}x)^3$

18. $(-\frac{1}{3}x^4)^2$

19. $(3x^3)^4(\frac{1}{4}x^3)^2$

20. $(4y)^2(-3y^2)^3$

21. $[(9x + 15)^3]^6$

22. $[(-2x^4)^3(-x^8)]^2$

23. $-(a^7b^2) \cdot (a^4b^9)^3$

24. $(r^3s^7t^5)^3(s^2t)^5$

Simplify. Then evaluate the expression when $x = 2$ and $y = 1$.

25. $(x^4y^2)(y^5)$

26. $(-2xy)^3$

27. $(-\frac{2}{3}x)^2(\frac{3}{2}y)^3$

28. $(xy^2)^2(5y^3)$

29. $(2y)^4(3y^2)^2$

30. $(-3x)^3(4y^3)^2$

31. **Quarters** Someone offers to double the amount of money you have every day for 20 days. You have 1 quarter. On the first day, you will have 2 quarters worth \$.50. On the second day, you will have 4 quarters worth \$1.00. How much money will you have on the 20th day?

Probability In Exercises 32–34, use the following information.

Part A of your history test has 15 multiple choice questions.
Each question has 4 choices. Part B has 10 true/false questions.

32. How many ways are there to answer the 15 multiple choice questions?
33. How many ways are there to answer the 10 true/false questions?