

Practice A

For use with pages 196–200

Complete the statement.

- To multiply powers with the same base, _____ their _____.
- To divide two powers with the same base, _____ the exponent of the _____ from the exponent of the _____.

Tell whether the product of powers property can be used to simplify the expression.

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

4. $5^4 \cdot 4^5$

5. $m^6 \cdot n^3$

6. $z^3 \cdot z^9$

Multiply or divide. Write your answer as a power.

7. $5^4 \cdot 5^7$

8. $9 \cdot 9^5$

9. $d^6 \cdot d^4$

10. $z^7 \cdot z^7$

11. $\frac{m^4}{m^2}$

12. $\frac{8^7}{8^4}$

13. $\frac{12^6}{12^5}$

14. $\frac{p^9}{p^5}$

15. $v^3 \cdot v^{11}$

16. $\frac{w^{16}}{w^{11}}$

17. $(-2)^6 \cdot (-2)^2$

18. $\frac{(-8)^9}{(-8)^3}$

Determine the number that correctly completes the statement.

19. $4^3 \cdot 4^7 = 4^8$

20. $6 \cdot \underline{\quad}^5 = 6^6$

21. $\frac{7^{12}}{7^?} = 7^8$

22. $\frac{13^?}{13^5} = 13^5$

Simplify the expression. Write your answer as a power.

23. $5m^3 \cdot 5m^6$

24. $8g^4 \cdot 8g^{11}$

25. $3^2w^5x^2 \cdot 3w^4x$

26. $\frac{f^7g^5}{f^2g^3}$

27. $\frac{a^6 \cdot a^3}{a^7}$

28. $\frac{6^4r^6}{6^2r^5}$

29. $\frac{12^3k^{16}}{12k^{12}}$

30. $8u^8v^2 \cdot 8^3u^5v^5$

31. $\frac{9^8b^{16}c^5}{9^5b^8c^3}$