

LESSON

7-3

Practice B

Multiplication Properties of Exponents

Simplify.

1. $3^4 \cdot 3^2$

2. $2^5 \cdot 2^4$

3. $2^3 \cdot 2^5 \cdot 2^1$

4. $q^{-6} \cdot q^{-1}$

5. $r^{-3} \cdot r^4 \cdot s^{-4}$

6. $j^{-2} \cdot j^{-4} \cdot j^2$

7. $c^5 \cdot b^{-2} \cdot c^3$

8. $(h^2)^5$

9. $(g^4)^{-2}$

10. $(w^6)^0$

11. $(v^2)^5 \cdot v^4$

12. $(w^5)^{-2} \cdot w^{-3}$

13. $(f^6)^{-4} \cdot (f^{-2})^{-3}$

14. $(a^{-2})^{-3} \cdot (a^5)^2$

15. $(3b)^4$

16. $(-5k)^2$

17. $-(4m)^3$

18. $(-3p)^{-2}$

19. $(s^4 t)^3 \cdot (s^4 t^3)^2$

20. $(a^2 b^4)^2 \cdot (a^{-2} b^3)^{-1} \cdot a^4$

21. $(x^3 y^2)^{-4} \cdot (x^2 y^{-3})^{-2}$

22. The pitch of a sound is determined by the number of vibrations produced per second. The note "middle C" produces 2.62×10^2 vibrations per second. If a pianist plays middle C for 5×10^{-1} seconds, how many vibrations will occur?
- _____

LESSON
7-3**Practice C****Multiplication Properties of Exponents****Simplify.**

1. $2^3 \cdot 2^5$

2. $6^4 \cdot 6^1$

3. $5^6 \cdot 5^{-2}$

4. $t^{-4} \cdot t^{-5}$

5. $x^4 \cdot x^2$

6. $s^4 \cdot s^6 \cdot t^3$

7. $(2^4)^2$

8. $(m^4)^0$

9. $(y^{-2})^{-4}$

10. $m^4 \cdot (n^2)^3 \cdot n^{-2}$

11. $y \cdot x^3 \cdot (y^2)^2 \cdot (x^3)^6$

12. $(4x)^3$

13. $(gh)^{-1}$

14. $-(3bc)^2$

15. $(j^2 k^3)^3$

16. $(5d)^2 \cdot d^4$

17. $(3xy^3)^{-2} \cdot (9y)^2$

18. $(r^{-3} s^4)^2 \cdot (r^2 s^7)^0$

19. $(a^2 b^{-2})^{-3} \cdot (a^{-1} b^2)^{-3}$

20. $(x^3 y^{-1})^4 \cdot (x^{-2} y^2)^{-3}$

21. $-(j^{-3} k^{-2})^2 \cdot (j^2)^6$

Find the missing exponent in each expression.

22. $b^{\square} \cdot b^5 = b^9$

23. $(t^{\square})^4 = t^{12}$

24. $(h^3)^{\square} = \frac{1}{h^6}$

25. Most states are irregularly shaped. However, the shapes of some western states approximate rectangles.

Wyoming is nearly rectangular, with a width of about 1.5×10^6 feet and a length of about 1.9×10^6 feet.

What is the approximate area of Wyoming?

Write your answer in scientific notation. _____