

Worksheet 4-3 - PreAlgebra

Multiplying and Dividing Monomials

Find each product or quotient. Express using positive exponents.

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

2. $9^8 \cdot 9^6$

3. $7^4 \cdot 7^2$

4. $13^2 \cdot 13^4$

5. $(-8)^5(-8)^3$

6. $(-21)^9 \cdot (-21)^5$

7. $t^9 \cdot t^3$

8. $h^4 \cdot h^{-13}$

9. $(m^6)(m^6)$

10. $(u^{11})(u^{10})$

11. $(-r)^{-7}(-r)^{20}$

12. $(-w)(-w)^9$

13. $4d^3 \cdot 8d^6$

14. $7j^{50} \cdot 6j^{50}$

15. $-5b^9 \cdot 6b^2$

16. $12 \cdot 12^2$

Find each quotient. Express using positive exponents.

17. $\frac{6^{11}}{6^3}$

18. $\frac{15^3}{15^2}$

19. $\frac{9^{-9}}{9^7}$

20. $\frac{18^4}{18^4}$

21. $\frac{(-7)^6}{(-7)^5}$

22. $\frac{95^{21}}{95^{18}}$

23. $\frac{v^{30}}{v^{20}}$

24. $\frac{n^{19}}{n^{11}}$

25. the product of five cubed and five to the fourth power

26. the quotient of eighteen to the ninth power and eighteen squared

27. the product of z cubed and z cubed

28. Decibels are units used to measure sound. The softest sound that can be heard is rated as 0 decibels (or a relative loudness of 1). Ordinary conversation is rated at about 60 decibels (or a relative loudness of 106). A rock concert is rated at about 120 decibels (or a relative loudness of 1012). How many times greater is the relative loudness of a rock concert than the relative loudness of ordinary conversation?