Name _____ Date _____

6.1 Practice A

In Exercises 1–6, evaluate the expression. Show all work for full credit.

1. $(-3)^0$

2. 7^0

3. 3^{-5}

4. $(-5)^{-3}$

5. $\frac{3^{-2}}{9^0}$

6. $\frac{6^{-1}}{-5^0}$

In Exercises 7–18, simplify the expression. Write your answer using only <u>positive exponents</u>. Show all work for full credit.

7. x^{-6}

8. z^0

9. $7x^{-4}y^0$

10. $12f^0g^{-9}$

11. $\frac{3^{-2}a^0}{b^{-2}}$

12. $\frac{6^0tu^{-5}}{2^5}$

13. $\frac{4^7}{4^4}$

14. $\frac{(-3)^6}{(-3)^3}$

15. $(-8)^3 \bullet (-8)^3$

16. $7^{-4} \bullet 7^4$

17. $\left(h^3\right)^4$

18. $\left(t^{-2}\right)^6$

19. A camera lens magnifies an object 10^3 times. The length of an object is 10^{-4} centimeter. What is its magnified length?

In Exercises 20–22, simplify the expression. Write your answer using only positive exponents. Show all work for full credit.

20. $(-2y)^5$ **21.** $(3d)^{-3}$ **22.** $\left(\frac{5}{b}\right)^{-3}$

In Exercises 23 and 24, simplify the expression. Write your answer using only positive exponents. Show all your work for full credit.

23. $\left(\frac{3x^2y^{-3}}{2x^{-3}y^2}\right)^3$ **24.** $\left(\frac{-6a^{-9}b^5}{2a^2b^{-4}}\right)^4$

In Exercises 25 and 26, evaluate the expression. Write your answer in scientific notation and standard form. Show all work for full credit.

25. $(1.2 \times 10^7)(4 \times 10^{-2})$ **26.** $\frac{3.9 \times 10^8}{1.3 \times 10^3}$