Name KEY Per ____ Date 2018

Chapter 10 Practice Test

Simplify each expression as much as possible.

You may NOT have negative exponents in your answer.

1. $\left(\frac{1}{4}\right)^3$ **2.** 2^4 **3.** $(-3)^3$

1. $\frac{1}{64}$
2. 16
3. -27

4. $(5x)^3$ **5.** $\frac{2^6}{2^4}$ **6.** $\frac{a^4}{a^8}$

4. $125x^3$
5. 4
6. $\frac{1}{a^4}$

7. $\frac{27x^2}{9x}$ **8.** $x^5 \bullet x^3$ **9.** $(2w^2)^5$

7. $3x$
8. x^8
9. $32w^{10}$

10. $w^{-7} \bullet w^7$ **11.** $2x^{-3} \bullet x^{-5}$ **12.** $\frac{g^{-4}}{g^2}$

10. 1
11. $\frac{2}{x^8}$
12. $\frac{1}{g^6}$

Tell whether the number is written in scientific notation. If not, write in correct scientific notation.

13. 0.3×10^4 No, b/c 1st factor is less than 1 $\boxed{3 \times 10^3}$

14. 12×10^{-7} No, b/c 1st factor is greater than 10 $\boxed{1.2 \times 10^{-6}}$

Write the number in standard form.

15. -2.7×10^{-3} **16.** 4×10^7

15. -0.0027
16. 40,000,000

$.0027 \times 10^{-3}$

.0027

Write the number in scientific notation.

17. 0.00031 **18.** 74,100

17. 3.1×10^{-4}

18. 7.41×10^{4}

Order the numbers from least to greatest.

19. 3.9×10^{7}, 3.08×10^{7}, 3.88×10^{7}

3 1 2

19. _____

20. 6.5×10^{-4}, 5.2×10^{-3}, 8.1×10^{-5}

2 3 1

20. _____

Evaluate the expression. Write your answer in scientific notation.

21. $(6.5 \times 10^{-3}) + (5.8 \times 10^{-3})$

12.3×10^{-3}

21. 1.23×10^{-2}

22. $(8.5 \times 10^{5}) - (4.3 \times 10^{5})$

4.2

22. 4.2×10^{5}

23. $(2.3 \times 10^{4}) + (1.6 \times 10^{3})$

23000
1600
24600

23. 2.46×10^{4}

24. $(1.1 \times 10^{8}) \times (1.6 \times 10^{7})$

24. 1.76×10^{15}

25. $(2.4 \times 10^{-4}) \div (8 \times 10^{3})$

25. 3×10^{-8}

26. A blue star has a temperature between 36,000°F and 90,000°F.

Is a star with temperature 8.8×10^{3} degrees Fahrenheit *warmer* or *cooler* than a blue star? Explain.

Cooler