

Exponents Review Sheet with Answers

SCORE _____

Practice and Check your answers when you are done.. If you are struggling see help on bottom of page

Write the letter for the correct answer in the blank at the right of each question.

1. What is the value of the expression $(-4)^3$?

A. -64 B. -12 C. 12 D. 64

1. A

2. Using exponents, what is the simplified form of the expression $\frac{12x^5}{6x^2}$?

F. 2^3 G. 6^3 H. $6x^3$ I. $2x^3$

2. I

3. Using exponents, what is the simplified form of the expression $(-3x^4y^2)^2$?

A. $-6x^6y^4$ B. $6x^6y^4$ C. $-9x^8y^4$ D. $9x^8y^4$

3. C

4. How is the expression 10^{-5} written using a positive exponent?

F. -10^5 G. $\frac{1}{10^5}$ H. 10^{-5} I. 0.0001

4. G

5. The Statue of Liberty weighs 450,000 pounds. What is this number written in scientific notation?

A. 4.5×10^{-5} C. 4.5×10^4
B. 4.5×10^{-4} D. 4.5×10^5

5. D

6. What is 3.471×10^{-5} written in standard form?

A. 3,471,000 B. 347,100 C. 0.0003471 D. 0.00003471

6. D

7. What is the value of the expression below written in scientific notation?

$$(2.5 \times 10^3)(3 \times 10^2)$$

A. 750,000 B. 7.5×10^5 C. 7,500,000 D. 7.5×10^6

7. B

8. What is the value of the expression below written in scientific notation?

$$(4.7 \times 10^5) - (2.8 \times 10^3)$$

F. 467,200 H. 1.9×10^3
G. 4.672×10^5 I. 1.9×10^2

8. G

9. The speed of light is approximately 3×10^8 meters per second, while the speed of sound is approximately 3.4×10^2 meters per second. How many times faster is the speed of light than the speed of sound?

A. 9×10^3 B. 9×10^4 C. 9×10^5 D. 9×10^6

9. C

10. The top speed of a cheetah is approximately 1.2×10^2 kilometers per hour, while the speed of the fastest human is approximately 4×10^1 kilometers per hour. How many times faster is the top speed of a cheetah than the speed of a human?

Which statement is true?

A

10. _____

- A. The cheetah is 3 times faster than the human
 B. The cheetah is 30 times faster than the human
 C. The human is 3 times faster than the cheetah
 D. The human is 30 times faster than the cheetah

THINGS TO REMEMBER

<u>Laws of Exponents</u> Product law 1.) Keep the base the same 2.) Add the exponents Quotient Law 1.) Keep the base the same 2.) Subtract the exponents Power to a Power 1.) Keep the base the same 2.) Multiply the exponents	<u>Multiply Monomials</u> 1.) Multiply Coefficients 2.) Keep the base (variable) the same 3.) Add Exponents <u>Divide Monomials</u> 1.) Divide Coefficients 2.) Keep the base (variable) the same 3.) Subtract the exponents	<u>Negative Exponents</u> 1.) Take the reciprocal 2.) Make the exponents positive <u>Zero Exponents</u> Anything to the zero power is 1
<u>Add /Subtract Scientific Notation</u> 1.) Put the #'s in standard form 2.) Add/subtract 3.) Put the answer in scientific notation	<u>Multiply #'s in Scientific Notation</u> 1.) Multiply decimals 2.) Keep the 10 the same 3.) Add exponents 4.) Make sure answer is in scientific notation *lose a decimal, gain an exponent *gain a decimal, lose an exponent	<u>Divide #'s in Scientific Notation</u> 1.) Divide decimals 2.) Keep the 10 the same 3.) Subtract exponents 4.) Make sure answer is in scientific notation *lose a decimal, gain an exponent *gain a decimal, lose an exponent
<u>Addition Word Problems</u> • Combined • Altogether • increased • Sum <u>Subtraction Word Problems</u> • Decreased • Difference • How many more • how MUCH <u>greater</u> longer wider more	<u>Unit Rate Words</u> • Per day • Each day • Every day • A day • One day • daily <u>Multiplication Word Problems</u> • Unit rate is GIVEN • Find the area or volume • Product <u>Division Word Problems</u> • FIND the unit rate • How many TIMES greater	<u>Place Value</u> Ten Thousandths .0001 Thousandths .001 Hundredths .01 Tenths .1 Ones 1 Tens 10 Hundreds 100 Thousands 1,000 Ten Thousand 10,000 Hundred thousand 100,000 Millions 1,000,000 Billions 1,000,000,000 Trillions 1,000,000,000,000