

Homework

<p>1. Simplify: <math>6^7 \cdot 6^1 \cdot 6^5 = 6^{7+1+5} =</math></p> <p>☒ Keep base</p> <p>☒ Add exponents <span style="border: 1px solid black; padding: 2px;"><math>6^{13}</math></span></p>	<p>2. Simplify: <math>2^{-7} \cdot 2^5 \cdot 2^{-5} = 2^{-7+5-5} =</math></p> <p>☒ Keep base</p> <p>☒ Add exponents <math>2^{-7} = \frac{1}{2^7} = \frac{1}{128}</math></p> <p><span style="border: 1px solid black; border-radius: 10px; padding: 2px;">2nd</span> <span style="border: 1px solid black; border-radius: 10px; padding: 2px;">PRB</span> to make a fraction</p>
<p>3. What is 722,000,000 in scientific notation?</p> <p style="text-align: center;"><span style="border: 1px solid black; padding: 5px;"><math>7.22 \times 10^8</math></span></p> <p><span style="border: 1px solid black; border-radius: 10px; padding: 2px;">2nd</span> <span style="border: 1px solid black; border-radius: 10px; padding: 2px;">DRG</span> <span style="border: 1px solid black; border-radius: 10px; padding: 2px;">&gt;</span> <span style="border: 1px solid black; border-radius: 10px; padding: 2px;">SCI</span></p>	<p>4. Simplify: <math>\frac{7^{10}}{7^2} = 7^{10-2} =</math> <span style="border: 1px solid black; padding: 2px;"><math>7^8</math></span></p> <p>☒ Keep base</p> <p>☒ Subtract exponents</p>
<p>5. Subtract. Leave answer in scientific notation.</p> <p><math>(2.75 \times 10^5) - (1.5 \times 10^5) =</math></p> <p style="text-align: center;"><span style="border: 1px solid black; padding: 5px;"><math>1.25 \times 10^5</math></span></p> <p>☒ must use ( ) in calc!</p>	<p>6. Write <math>&lt;</math>, <math>&gt;</math>, or <math>=</math> between the two numbers.</p> <p><math>7.11 \times 10^{(2)} &gt; 9.2 \times 10^{(9)}</math></p> <p style="text-align: center;"><math>-2 &gt; -9</math></p> <p>☒ Compare the exponents <math>10^2</math></p>
<p>7. Write <math>&lt;</math>, <math>&gt;</math>, or <math>=</math> between the two numbers.</p> <p><math>\underline{9.7} \times 10^4 &lt; \underline{9.9125} \times 10^4</math></p> <p style="text-align: center;"><math>9.7 &lt; 9.9125</math></p> <p>☒ have to compare the coefficients b/c the exponents are the same</p>	<p>8. List in order from <u>least</u> to <u>greatest</u>.</p> <p>☒ Compare the exponents <math>1^{st}</math></p> <p><math>1.52 \times 10^8</math>, <math>4.81 \times 10^{-7}</math>, <math>7.5 \times 10^2</math>, <math>2.6 \times 10^{-5}</math></p> <p style="text-align: center;"><span style="border: 1px solid black; border-radius: 10px; padding: 5px;"><math>4.81 \times 10^{-7}</math>, <math>2.6 \times 10^{-5}</math>, <math>7.5 \times 10^2</math>, <math>1.52 \times 10^8</math></span></p>

9. What is 0.000000025 in scientific notation?

$$2.5 \times 10^{-8}$$

2nd) DRG) > SCI (=)

10. What is the value of  $7^{-2}$  in standard form and written with a positive exponent?

$$0.020408163 = \frac{1}{7^2} = \frac{1}{49}$$

11. Simplify:  $(5^{-5})^{-2} = 5^{-5 \cdot (-2)} =$

\* keep the base

\* multiply the exponents

$$5^{10}$$

12. Simplify:  $2156^0$

$$1$$

13. Write  $6.21 \times 10^8$  in standard form.

$$621,000,000$$

2nd) DRG) < FLO (=)

14. Find the quotient. Leave in scientific notation.

$$\frac{9.3 \times 10^8}{1.5 \times 10^{-2}}$$

$$(9.3 \times 10^8) \div (1.5 \times 10^{-2}) =$$

$$6.2 \times 10^{10}$$

\* must use ( ) in the calculator

15. Add:  $(6.82 \times 10^8) + (3.1 \times 10^8) =$   
Leave your answer in scientific notation.

$$9.92 \times 10^8$$

\* must use ( ) in the  
calculator

16. Multiply:  $(8.125 \times 10^5) \times 10,000$   
Leave your answer in scientific notation

$$(8.125 \times 10^5) \cdot (10,000) =$$

$$8.125 \times 10^9$$

\* must use ( ) in the  
calculator