Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_

**10.7B NOTES – Adding and Subtracting In Scientific Notation**

*Objective: Apply knowledge about power rules to adding and subtracting numbers in scientific notation. CCSS: 8.EE.4*

*Friday CW: (10.7B) p. 452 #3, 4, 7 – 10 all (do in BIM)*

Convert to Scientific Notation:

If you move to the \_\_\_\_\_\_\_\_\_\_\_\_, then it is a NEGATIVE exponent.

If you move to the \_\_\_\_\_\_\_\_\_\_\_\_, then it is a POSITIVE exponent.

*Write each problem in scientific notation if necessary.*

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| 1. 139.45 x 103   It is important to check your answer. | 1. .000945 x 10-4 | 1. 9.45 x 105 |

|  |
| --- |
| **Adding Subtracting Numbers in Scientific Notation:**   1. When adding or subtracting numbers in scientific notation, the exponents must be the same. 2. Add or subtract factors by lining up the decimals. 3. Keep the Power the same. 4. Write in scientific notation. Make sure the coefficient is greater than 1 and less than 10. |

Watch the video and to the two problems: <https://www.youtube.com/watch?v=p0zVNTko7z4>

|  |  |
| --- | --- |
| **Example 1: Adding With Same Exponents**  (2.1 x 103) + (4.4 x 103) | **Example 2: Subtracting With Same Exponents**  (8.0 x 105) – (7.6 x 105) |

*Round factor to the nearest hundredths*

|  |  |
| --- | --- |
| **You Try 1: Adding With Same Exponents**  (9.45 x 103) + (6.11 x 103) | **You Try 2: Subtracting With Same Exponents**  (8.96 x 107) – (3.41 x 107) |

**BACK 🡪**

**Application**

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| **Example 3:** How many times greater is the diameter of the Sun than the diameter of the Earth? |
| Textbook: #24 pg 452  MONEY. How many times greater is the thickness of a dime than the thickness of a dollar bill? |

**REVIEW Practice Problems**

|  |  |
| --- | --- |
| Convert the following numbers into scientific notation:  1) 392 2) 53000  3) 0.00000234 4) 0.00671 | |
| Convert the following numbers into standard notation:  5) 1.92 x 103 6) 7.45 x 105  7) 3.51 x 10-7 8) 1.901 x 10-2 | |
| 9)  (7.45 x 102) + (1.11 x 102) | 10)  (9.45 x 10-5) – (1.11 x 10-5) |
| 11)  (1.05 x 104) + (9.11 x 104) | 12)  (1.45 x 105) – (1.11 x 105) |

*Additional video:* <https://www.youtube.com/watch?v=PYTp75sryWA>