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

**10.7C NOTES – Adding & Subtracting In S.N. With DIFFERENT EXPONENTS**

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

*HW: (10.7C) p. 452 #11 – 15, 25, 26. Do in BIM (If you cannot do in BIM, copy problem, show work, check solutions on p. A41)*

**Warm Up (use your 10.4B Notes for assistance)**

|  |  |
| --- | --- |
| 1. (9.4 x 103) + (6.1 x 103)
 | 1. (8.6 x 107) – (3.1 x 107)
 |

<https://www.youtube.com/watch?v=PYTp75sryWA> (VIDEO FOR REFERENCE)

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| **Adding Subtracting Numbers in Scientific Notation:**1. When adding or subtracting numbers in scientific notation, the EXPONENTS MUST BE THE SAME. When the numbers have DIFFERENT powers of 10, first rewrite the numbers so they have the same power of 10. (For example: If you make the factor smaller by moving the decimal to the left, make the exponent bigger)
2. Add or subtract the factors. Multiplied by the new power of 10.
3. Write your final answer in scientific notation. Make sure the factor is greater than or equal to 1 and less than 10.
 |

*Find the sum or difference. Write your answer in scientific notation*

|  |  |
| --- | --- |
| **Example 1:** (4.6 x 105) + (8.7 x 103) | **Example 2:** (7.5 x 107) – (9.4 x 106) |
| **You Try**1. (2.6 x 106)+ (3.4 x 103)
 | 1. (5.7 x 103)– (2.6 x 10-1)
 |

***BACK 🡪***

**APPLICATION**

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| **Review:**

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| --- | --- |
| 1. Find the area and perimeter of the rectangle with the length of 3 in and the width of 2 in.

AREA: \_\_\_\_\_\_\_\_\_\_\_ PERIMETER: \_\_\_\_\_\_\_\_\_\_\_ | 1. Find the perimeter of a rectangle with Area = 28 in2 and the width of 4 in.

PERIMETER: \_\_\_\_\_\_\_\_\_\_\_\_\_ |

 |
| **Example 3:** *Find the perimeter of a rectangle with Area = 1.952 x 109, and Width = 3.2 x 103.**HINT: First find the length. Then, use the width and length to find the perimeter* *(2L + 2W or L + L + W + W)* |

|  |
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| **Example 4:** *Evaluate the expression. Write your answer in scientific notation* *0.000068 + (7.4 x 10-7) – (6.63 x 10-6)* |

**PRACTICE PROBLEMS**

|  |  |
| --- | --- |
| 1. (4.2 x 106) + (3.9 x 104)
 | 1. (9.3 x 10-3) – (2.6 x 10-5)
 |
| 1. (1.2 x 102) + (3.4 x 103)
 | 1. (6.1 x 10-3) + (9.9 x 10-2)
 |