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

**10.4B NOTES – Zero and Negative Exponents**

*Objective: Know and apply the properties of integer exponents to generate equivalent expressions (CCSS: 8.EE.1)*

*Complete 10.4B exit slip after the lesson*

**Warm-Up**

|  |  |
| --- | --- |
| 1. Evaluate the expression.

 5-3 ∙ 53  | 1. Evaluate the expression.

 $\frac{1}{5^{7}}∙ \frac{1}{5^{-4}}$ |

**EXAMPLES**

|  |  |
| --- | --- |
| 1) Simplify. If possible, write the expression using only positive exponents.1. -2x0
2. $\frac{4b^{-4}}{b^{7}}$
 | 2) Simplify. If possible, write the expression using only positive exponents.1. 7y-3
2. $\frac{m^{4}n^{-1}}{2m^{-3}}$
 |
| 3) Evaluate the expression 4 · 2-3 + 7 | 4) Simplify. Write the expression using only positive exponents. 5m-8 · 6m6 |

**BACK 🡪**

**STEPS:**

1. Make expression into a fraction (if it is not already)
2. Identify negative exponents
3. Take the reciprocal of negative exponents to make them positive
4. Simplify the numerator and denominator using the Power Rule
5. Use the Quotient Rule

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Simplify. Write the expression using only positive exponents.

|  |  |  |
| --- | --- | --- |
| 7. 8x-2 | 8. b0 · b10 | 9. $\frac{z^{6}}{15z^{9}}$ |

|  |  |
| --- | --- |
| 9b. $\frac{8x^{-4}}{x^{2}}$ | 9c. $\frac{k^{5}}{2k^{-3}}$ |

**10.4B EXIT SLIP**

ERROR ANALYSIS: Read the problem. Describe what the error is and then correct it.

|  |  |
| --- | --- |
|  |  |