Standard 8.EE.1 **7.5 Division Properties of Exponents**  Unit 2 Day 5

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| **Dividing Powers with the Same Base** | | |
| To divide powers with the same base, subtract the exponents. |  | Examples: |

**Why it Works:** Use repeated multiplication to rewrite the product of powers: 38 ÷ 36 =?

1. Expand each into the product numbers to the right.



**Dividing Algebraic Expressions**

What is each expression written using each base only once?

1. 
2. 
3. 
4. 
5. 
6. 

|  |  |  |
| --- | --- | --- |
| **Raising a Quotient to a Power** | | |
| To raise a quotient to a power, raise the numerator and the denominator to the power and simplify. |  | Examples: |



**Why it Works:** Use repeated multiplication to rewrite the product of powers:

1. Expand each into the product numbers to the right.



**Raising a Quotient to a Power**

1. What is the simplified form of 
2. What is the simplified form of 

Describe two different ways to simplify the expression . Which method do you prefer? Explain.

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| **Raising a Quotient to a Negative Power** | | |
| To raise a quotient to a negative power, raise the numerator and the denominator to the power and simplify. |  | Examples: |

**Simplifying an Exponential Expression**

1. What is the simplified form of
2. What is the simplified form of

**Lesson Check!** Simplify each expression.

1. How is the property for raising a quotient to a power similar to the property for raising a product to a power?
2. Ross simplifies  as shown below. Explain why Ross’s method works.



1. 
2. 
3. 
4. 