Lesson 5: Exponents

Problem Set

1. Complete the table by filling in the blank cells. Use a calculator when needed.

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| **Exponential Form** | **Expanded Form** | **Standard Form** |
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1. Why do whole numbers raised to an exponent get greater, while fractions raised to an exponent get smaller?
2. The powers of that are in the range through are , ,,,,,,, and . Find all the powers of that are in the range through .
3. Find all the powers of in the range through .
4. Write an equivalent expression for using only addition.
5. Write an equivalent expression for using only multiplication.
   1. Explain what is in this new expression.
   2. Explain what is in this new expression.
6. What is the advantage of using exponential notation?
7. What is the difference between and ? Evaluate both of these expressions when.