Lesson 1: Exponential Notation

Classwork

 means and means .

You have seen this kind of notation before: it is called exponential notation. In general, for any number and any positive integer ,

The number is called raised to the th power, where is the exponent of in and is the base of .

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| Exercise 1 | Exercise 6 |
| Exercise 2  | Exercise 7 |
| Exercise 3 | Exercise 8 |
| Exercise 4 | Exercise 9 |
| Exercise 5 | Exercise 10 |

Exercise 11

Will these products be positive or negative? How do you know?

Exercise 12

Is it necessary to do all of the calculations to determine the sign of the product? Why or why not?

Exercise 13

Fill in the blanks about whether the number is positive or negative.

If is a positive even number, then is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

If is a positive odd number, then is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Exercise 14

Josie says that . Is she correct? How do you know?

Problem Set

1. Use what you know about exponential notation to complete the expressions below.

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1. Write an expression with () as its base that will produce a positive product.
2. Write an expression with () as its base that will produce a negative product.
3. Rewrite each number in exponential notation using as the base.

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1. Tim wrote as Is he correct?
2. Could be used as a base to rewrite ? ? Why or why not?