Lesson 3: Numbers in Exponential Form Raised to a Power

Classwork

For any number and any positive integers and ,

because

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| Exercise 1 | Exercise 3 |
| Exercise 2 | Exercise 4  Let be a number. |

Exercise 5

Sarah wrote . Correct her mistake. Write an exponential expression using a base of and exponents of , , and that would make her answer correct.

Exercise 6

A number satisfies . What equation does the number satisfy?

For any numbers and , and positive integer ,

because

|  |  |
| --- | --- |
| Exercise 7 | Exercise 10  Let be a number. |
| Exercise 8 | Exercise 11  Let and be numbers. |
| Exercise 9  Let , , and be numbers. | Exercise 12  Let , , and be numbers. |

Exercise 13

Let and be numbers, , and let be a positive integer. How is related to and ?

Problem Set

1. Show (prove) in detail why .
2. Show (prove) in detail why for any numbers .
3. Show (prove) in detail why for any numbers , and and for any positive integer .