

---

**TI-Nspire Activity:** *Negative Exponents*

By: *Sunshine Light*

**Activity Overview**

*Students explore the procedure for evaluating negative exponents and begin to understand the meaning and purpose of negative exponents.*

**Concepts**

*Exponents and negative exponents*

**Teacher Preparation**

*Transfer tns file to student TI-Nspires. Make copies of handout for each student.*

**The Classroom.**

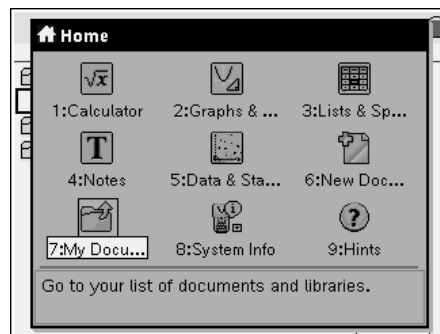
*I suggest using this activity after students have a clear understanding of exponents. The first half of this activity should be completed alone (approximately 20 minutes). The second half should be completed in pairs with discussion. The teacher should **not** explain the process of evaluating negative exponents during this activity, but should allow students to derive their own algorithm through observations.*

**TI-Nspire Applications**

*Calculator Page*

*Go to the home screen and select My Documents.*

*Open negative exponents*

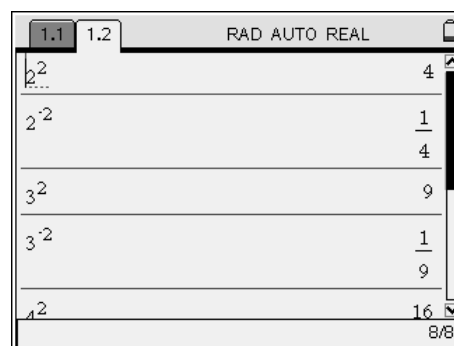


**The Document**

(1.1) Title Page

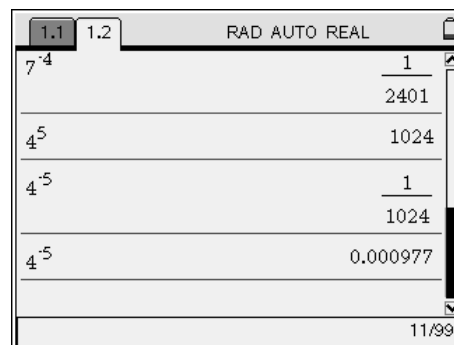


(1.2) Student will examine the data on page 1.2 in order to find the relationship between expressions with exponents and negative exponents. They record their findings on the handout.



$2^2$	4
$2^{-2}$	$\frac{1}{4}$
$3^2$	9
$3^{-2}$	$\frac{1}{9}$
$4^2$	16
8/8	

(1.2) Students will then fill in the table on the worksheet which also includes a column for the decimal equivalent for negative exponents. Then will use  $\text{ctrl} + \text{alt} + \text{=}$  to get the decimal equivalent. This will help the students to understand that negative exponents represent very small numbers.



$7^4$	1
	2401
$4^5$	1024
$4^{-5}$	$\frac{1}{1024}$
$4^{-5}$	0.000977
11/99	

Students will make a rule for evaluating negative exponents and record it on the handout.

*Assessment:* Students will then work through the questions on the handout in order to define their understanding of negative exponents.

*Assessment: Students will get a partner check at this point. They will compare and discuss the process for evaluating negative exponents and clarify the need for negative exponents.*

**Student TI-Nspire Documents**

Negative Exponents.doc

Negative Exponents.pdf

negative exponents.tns