

Learning Outcomes Covered:

2A: I can evaluate a power with an integer base.

CONTENT Assessment Questions:

1. Complete this table.

Power	Base	Exponent	Repeated Multiplication	Standard Form
4^4	4	4	$4 \times 4 \times 4 \times 4$	256
$(-10)^3$	-10	3	$(-10) \times (-10) \times (-10)$	-1000
$(-6)^2$	-6	2	$(-6) \times (-6)$	36
3^5	3	5	$3 \times 3 \times 3 \times 3 \times 3$	243

2. Write each product as a power, then evaluate.

a) 6×6
 $= 6^2 = 36$

b) $10 \times 10 \times 10 \times 10$
 $= 10^4 = 10,000$

c) $(-8)(-8)(-8)$
 $= (-8)^3$
 $= -512$

d) $-(-8)(-8)(-8)$
 $-(-8)^3 = -(-512)$
 $= 512$

3. Write each power as repeated multiplication, then evaluate.

a) 4^6
 $= 4 \times 4 \times 4 \times 4 \times 4 \times 4$
 $= 4096$

b) -9^3
 $= -(9 \times 9 \times 9)$
 $= -729$

CURRICULAR COMPETENCIES Questions:

1. Use repeated multiplication and some words to show why 3^5 is not the same as 5^3 . (CmRp)

$3^5 = 3 \times 3 \times 3 \times 3 \times 3 \rightarrow$ multiply 3 five times.

$5^3 = 5 \times 5 \times 5 \rightarrow$ multiply 5 three times.

2. Predict whether each answer is positive or negative, then evaluate. Give reasons. (RA)

a) $(-3)^2$
 Positive, even exponent
 $= 9$

b) $(-3)^3$
 Negative, odd exponent
 $= -27$

c) -3^2
 Negative, negative sign not
 part of the power
 $-(3 \times 3) = -9$

d) $-(-3)^3$
 Positive, negative sign outside
 makes $(-3)^3$ positive
 $= 27$

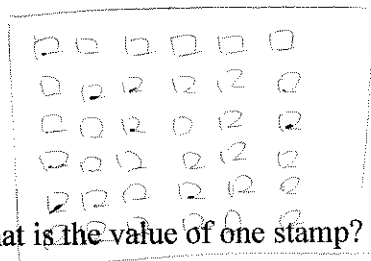
3. Is the value of -2^4 different from the value of $(-2)^4$? Explain. (CmRp)

Different, $-2^4 = -16$, $(-2)^4 = 16$. Negative sign for -2^4 is not part of power; therefore, it was not taken to the power of 4.

4. Stamps are sold in a 6 by 6 sheet. The total value of a sheet of stamps is \$60.00. (US, CnRf)

a) Express the number of stamps as a power and in standard form.

b) Draw a picture to represent this power. $6^2 = 36$



c) What is the value of one stamp?

$60 \div 36 = \$1.67$

ONGOING LEARNING ACTIVITIES:

CORE: Page 55: Curricular Competencies: 11, 13 odd letters, 14, 15, 17, 19

Content: (4 to 9) do as many as you want, 12

ADVANCED: Page 57: 20, 21, 23, 24