

Lesson 10

COMMON CORE STANDARD CC.5.NBT.2

Lesson Objective: Write and evaluate repeated factors in exponent form.

Name _____

Algebra • Powers of 10 and Exponents

You can represent repeated factors with a base and an exponent.

Write $10 \times 10 \times 10 \times 10 \times 10 \times 10$ in exponent form.

10 is the repeated factor, so 10 is the **base**.

The base is repeated 6 times, so 6 is the **exponent**.

$$10 \times 10 \times 10 \times 10 \times 10 \times 10 = 10^6$$

10^6 ← exponent
↑
base

A base with an exponent can be written in words.

Write 10^6 in words.

The exponent 6 means “the sixth power.”

10^6 in words is “the sixth power of ten.”

You can read 10^2 in two ways: “ten squared” or “the second power of ten.”

You can also read 10^3 in two ways: “ten cubed” or “the third power of ten.”

Write in exponent form and in word form.

1. $10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10$

exponent form: _____ word form: _____

2. $10 \times 10 \times 10$

exponent form: _____ word form: _____

3. $10 \times 10 \times 10 \times 10 \times 10$

exponent form: _____ word form: _____

Find the value.

4. 10^4

5. 2×10^3

6. 6×10^2

Name _____

Powers of 10 and Exponents

Write in exponent form and word form.

1. $10 \times 10 \times 10$

2. 10×10

3. $10 \times 10 \times 10 \times 10$

exponent form: 10^3

exponent form: _____

exponent form: _____

word form: the

word form: _____

word form: _____

third power
of ten

Find the value.

4. 10^3

5. 4×10^2

6. 9×10^4

7. 10^1

8. 10^5

9. 5×10^1

10. 7×10^3

11. 8×10^0

Problem Solving



12. The moon is about 240,000 miles from Earth. What is this distance written as a whole number multiplied by a power of ten?

13. The sun is about 93×10^6 miles from Earth. What is this distance written as a whole number?
