Homework 1.2

Place Value and Exponents

You can use exponents to write numbers.

\[ 10^4 = 10 \times 10 \times 10 \times 10 = 10,000 \]

You can use exponents to write numbers in expanded form.

\[ (8 \times 10^5) + (7 \times 10^4) + (2 \times 10^3) + (5 \times 10^2) + (9 \times 10^1) + (6 \times 10^0) = 872,596 \]

Use exponents to write each number in expanded form.

1. 19,742

2. 617,945

3. 56,067

Write each number in standard form.

4. \((4 \times 10^5) + (9 \times 10^4) + (5 \times 10^3) + (7 \times 10^2) + (6 \times 10^1) + (3 \times 10^0)\)

5. \((2 \times 10^4) + (1 \times 10^3) + (8 \times 10^2) + (5 \times 10^1) + (1 \times 10^0)\)

What is the value of \(n\) in each equation?

6. \(60,000 = 6 \times 10^n\)

7. \(5^2 \times 3 = n\)

Problem Solving

8. Are \(10^0\) and \(2^0\) equal? Why or why not?

Show Your Work