

Grade 8 · Scientific Notation · Worksheet

Common Core 8.EE.A.3, 8.EE.A.4 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

These problems practice Common Core standards 8.EE.A.3 and 8.EE.A.4. Write very large and very small numbers in scientific notation, compare them using how many times as much, multiply, divide, add, and read calculator notation such as 3.2E5.

The last six problems are word problems with real-world quantities such as light travel, memory and weight. Work from easiest to hardest.

Grade 8Common Core: 8.EE.A.3 · 8.EE.A.4

Problem 1: Thousands

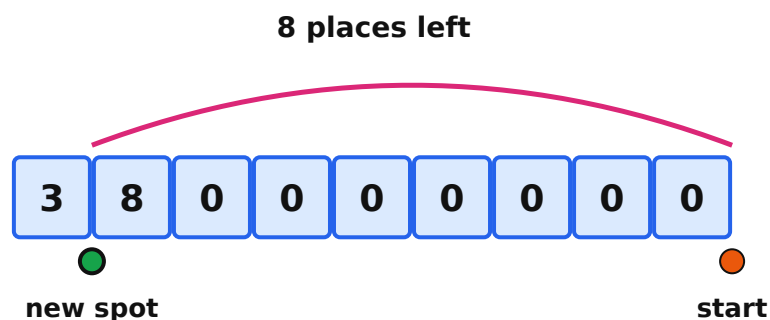
Write 5,000 in scientific notation.

Problem 2: Ten thousands

Write 72,000 in scientific notation.

Problem 3: A very large number

Write 380,000,000 in scientific notation.



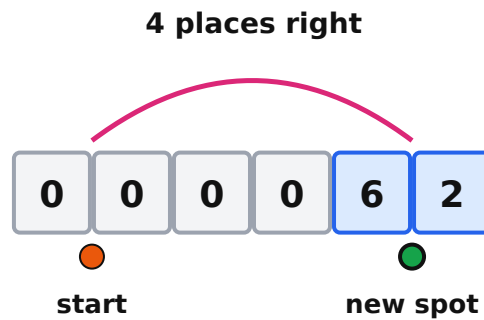
Digits of 380,000,000.

Problem 4: A small number

Write 0.0004 in scientific notation.

Problem 5: Small number with two digits

Write 0.00062 in scientific notation.



Digits of 0.00062.

Problem 6: Standard form

Write 3.5×10^5 in standard form.

Problem 7: Negative exponent to decimal

Write 8.1×10^{-3} in standard form.

Problem 8: Millions

Write 2.04×10^6 in standard form.

Problem 9: Tiny decimal

Write 0.000000705 in scientific notation.

Problem 10: Compare two numbers

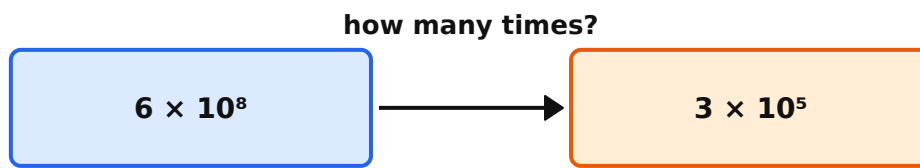
Compare 4.2×10^5 and 3.9×10^6 . Write $<$, $>$ or $=$ and explain.

Problem 11: Order small numbers

Order from least to greatest: 6.1×10^{-3} , 2.5×10^{-2} , 9.9×10^{-4} .

Problem 12: How many times as much?

How many times as large is 6×10^8 as 3×10^5 ?



Compare the two values.

Problem 13: Small numbers: how many times

How many times as large is 9×10^{-2} as 3×10^{-5} ?

Problem 14: Multiply

Find $(3 \times 10^4)(2 \times 10^3)$. Write the answer in scientific notation.

Problem 15: Multiply and fix

Find $(4 \times 10^5)(5 \times 10^{-2})$. Write the answer in scientific notation.

Problem 16: Divide

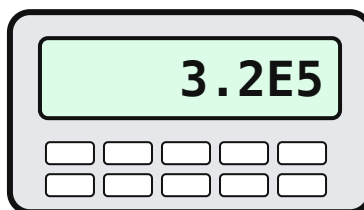
Find $\frac{8.4 \times 10^7}{2.1 \times 10^3}$. Write the answer in scientific notation.

Problem 17: Add

Find $4.8 \times 10^5 + 3.7 \times 10^6$. Write the answer in scientific notation.

Problem 18: Calculator notation

A calculator displays 3.2E5. Another displays 7.5E-3. Write each value in standard form and in scientific notation.



First display.

Problem 19: Miles to feet

The distance from Chicago to Los Angeles is about 2,450 miles. One mile is 5,280 feet. Write

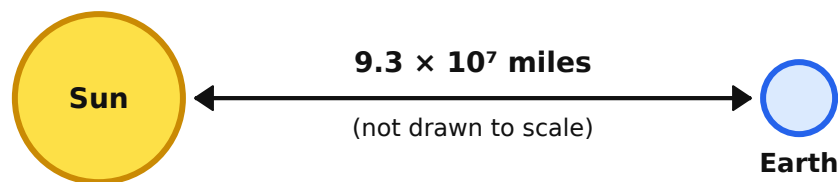
the distance in feet using scientific notation.

Problem 20: Population comparison

A city has about 2.5×10^5 people. The country has about 3×10^8 people. About how many times as large is the population of the country?

Problem 21: Sunlight to Earth

Earth is 9.3×10^7 miles from the Sun. Light travels 1.86×10^5 miles per second. How many seconds does sunlight take to reach Earth? Give the answer in minutes and seconds too.



Sunlight travels from the Sun to Earth.

Problem 22: Stack of paper

One sheet of paper is 4×10^{-3} inch thick. Jamal stacks 5×10^3 sheets. How tall is the stack? Write the answer in scientific notation.

Problem 23: Photos on a tablet

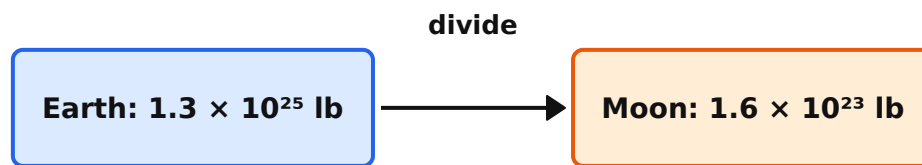
A tablet stores 6.4×10^{10} bytes. Each photo uses 4×10^6 bytes. How many photos fit? Write the answer in scientific notation.

Problem 24: Snail on a trail

A garden snail crawls 2×10^{-3} mile per hour. How far does it go in 4×10^2 hours? Write the answer in scientific notation and in standard form.

Problem 25: Earth and Moon

Earth weighs about 1.3×10^{25} pounds. The Moon weighs about 1.6×10^{23} pounds. About how many times as heavy is Earth as the Moon? Round to the nearest whole number.



Compare the two weights.