

Grade 8 · Scientific Notation · Test

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

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

This test has nine questions worth 20 points in total and should take about 45 minutes. Show every step. A calculator is not needed. Questions cover writing numbers in scientific notation, comparing them, calculating with them, reading calculator displays, and solving word problems.

Test information

- **Grade:** Grade 8
- **Chapter:** Scientific Notation
- **Common Core:** 8.EE.A.3, 8.EE.A.4
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 2 pts; Question 6: 2 pts; Question 7: 2 pts; Question 8: 3 pts; Question 9: 3 pts)

Question 1: Large numbers (2 points)

- Write 93,000,000 in scientific notation. (1 point)
- Write 450,000 in scientific notation. (1 point)

Question 2: Small numbers (2 points)

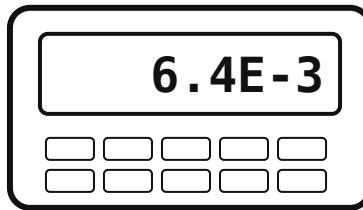
- Write 0.0000062 in scientific notation. (1 point)
- Write 0.0705 in scientific notation. (1 point)

Question 3: Standard form (2 points)

- Write 4.7×10^6 in standard form. (1 point)
- Write 3.09×10^{-4} in standard form. (1 point)

Question 4: Calculator display (2 points)

A calculator shows this display.

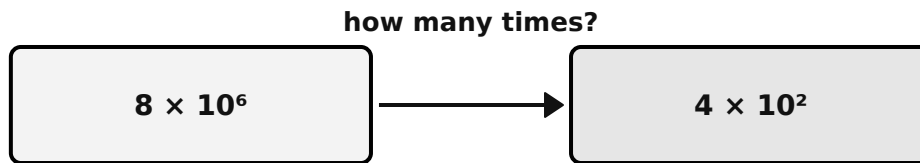


Calculator display.

- a. Write the value in scientific notation. (1 point)
- b. Write the value in standard form. (1 point)

Question 5: How many times as large (2 points)

Compare these two quantities.



Two quantities.

- a. How many times as large is the first as the second? Write the answer in scientific notation. (2 points)

Question 6: Multiply and divide (2 points)

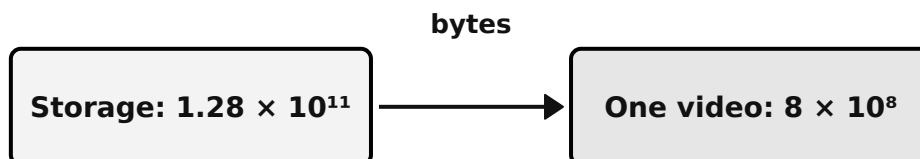
- a. Find $(6 \times 10^4)(3 \times 10^{-7})$ in scientific notation. (1 point)
- b. Find $\frac{9.6 \times 10^8}{1.2 \times 10^3}$ in scientific notation. (1 point)

Question 7: Order and add (2 points)

- a. Order from least to greatest: 3.2×10^{-4} , 1.5×10^{-3} , 8.9×10^{-5} . (1 point)
- b. Find $2.6 \times 10^5 + 7.4 \times 10^5$ in scientific notation. (1 point)

Question 8: Phone storage (3 points)

Mia's phone has 1.28×10^{11} bytes of storage. One video uses 8×10^8 bytes.

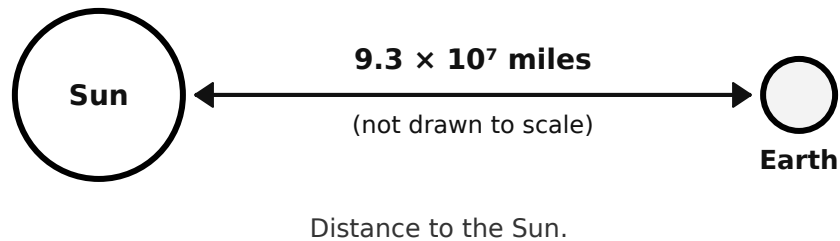


Phone storage and one video.

- a. Write an expression for the number of videos that fit. (1 point)
- b. Find the number in scientific notation. (1 point)
- c. Write the number in standard form. (1 point)

Question 9: Trip to the Sun (3 points)

A spacecraft travels at 3×10^4 miles per hour toward the Sun, which is 9.3×10^7 miles away.



- a. Find the travel time in hours, in scientific notation. (1 point)
- b. Convert the time to days. Round to the nearest day. (1 point)
- c. Write the distance in feet in scientific notation. One mile is 5,280 feet. (1 point)