

Challenge: Skills and Applications

For use with pages 470–475

In Exercises 1–3, evaluate the expression without using a calculator. Write the result in decimal form.

1. $(3.55 \times 10^8) + (1.6 \times 10^6)$

2. $7.94 \times 10^{-7} - \frac{1.2 \times 10^{-6}}{4}$

3. $4(6.25 \times 10^7) + 1.4 \times 10^8$

In Exercises 4–5, write the answer in scientific notation.

4. Find a number 100,000 times as large as 3.95×10^4 .

5. Find a number 100,000 times as large as 3.95×10^n .

6. Which of the following two numbers is larger? How many times as large is it?

2.5×10^{-5}

1.25×10^2

In Exercises 7–8, use the following information.

The radius of Earth is about 6.38×10^3 kilometers. The radius of the sun is about 6.96×10^5 kilometers. The planet Jupiter has a radius of about 7.14×10^4 kilometers.

7. The sun's volume is about how many times as large as Earth's volume?

(The formula for the volume of a sphere is $V = \frac{4}{3}\pi r^3$.)

8. Jupiter's volume is about how many times as large as Earth's volume?