

Problem Set

1. The Atlantic Ocean region contains approximately 2×10^{16} gallons of water. Lake Ontario has approximately 8,000,000,000 gallons of water. How many Lake Ontarios would it take to fill the Atlantic Ocean region in terms of gallons of water?
2. U.S. national forests cover approximately 300,000 square miles. Conservationists want the total square footage of forests to be $300,000^2$ square miles. When Ivanna used her phone to do the calculation, her screen showed the following:



- a. What does the answer on her screen mean? Explain how you know.
- b. Given that the U.S. has approximately 4 million square miles of land, is this a reasonable goal for conservationists? Explain.

3. The average American is responsible for about 20,000 kilograms of carbon emission pollution each year. Express this number as a single-digit integer times a power of 10.
4. The United Kingdom is responsible for about 1×10^4 kilograms of carbon emission pollution each year. Which country is responsible for greater carbon emission pollution each year? By how much?