

PRACTICE **13**_____
Name_____
Date

1. Use the following information to fill in the blanks. On Earth, there are about 1 quadrillion (1,000,000,000,000,000) ants and about 8 billion people.

a. On Earth, there are about _____ more ants than people.

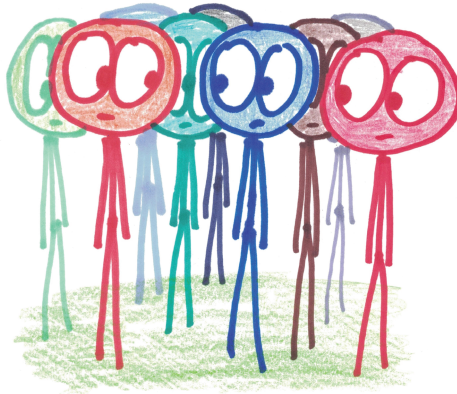
b. On Earth, there are about _____ times as many ants as people.

2. Complete parts (a)–(c) to estimate, calculate, and compare the approximate number of sheets of paper you must stack to reach the height of Mount Everest.



- a. Estimate by making an educated guess about the place value of the answer. For example, describe the place value as *in the thousands* or *in the tens of millions*.
- b. A stack of 200 sheets of paper measures approximately 5×10^{-2} feet. The height of Mount Everest is approximately 2.9035×10^4 feet. Calculate the approximate number of sheets of paper you must stack to reach the height of Mount Everest.
- c. Find the difference between your place value guess from part (a) and the actual answer from part (b).

3. Complete parts (a)–(c) to estimate, calculate, and compare the approximate number of people it would take standing shoulder to shoulder to fill the entire United States.



- a. Estimate by making an educated guess about the place value of the answer. For example, describe the place value as *in the thousands* or *in the tens of millions*.
- b. The United States has a land area of about 3.797×10^6 square miles. Each person takes up about 4 square feet of area. Calculate the number of people that could stand shoulder to shoulder to fill the United States. (1 square mile $\approx 2.788 \times 10^7$ square feet)
- c. Find the positive difference between your place value guess from part (a) and the actual answer from part (b).

Remember

For problems 4–7, multiply.

4. $4\left(\frac{5}{8}\right)$

5. $4\left(\frac{7}{24}\right)$

6. $11\left(\frac{7}{33}\right)$

7. $10\left(\frac{14}{80}\right)$

8. Simplify $(x^{-6}y^5z^0)^{-4}$. Assume all variables are nonzero.

9. The length of a line segment is 12 units. One endpoint of the line segment is $(-3, 6)$. Find four points that could be the other endpoint of the line segment. Use the coordinate plane as needed.

