Lesson 1-8: Use Powers of 10 to Estimate Quantities

1. Sample answer: Use powers of 10 when quantities are very large or very small.

2. Sample answer: The number 0.00436 is less than 1, so the exponent should have a negative sign.

3. Sample answer: She miscounted the number of zeros. The exponent of 10 should be 11.

4. About 3×10^4 feet

5. About 2×10^{-21} g

6. About 2×10^1 greater

7. 3,000,000
   3; 6

8. 0.00002
   2; - 5

9. 4; 5
   10

10. About 4×10^{-2}

11. a. 6×10^{-6}
    b. 2×10^{-8}
    c. 300 times

12. 4×10^4 dollars

13. 20

14. No; Sample answer: She counted the number of decimal places rather than how many places the decimal point moves. It should be 3×10^{-7} meter.

15. 12

16. A

17. a. About 3×10^{-7}
    b. Sample answer: Rather than having to count zeros and decimal places, you can compare the exponents.