

Exercise 1.70

Is the use of significant figures in each of the following statements appropriate? (a) The 2005 circulation of *National Geographic* was 7,812,564. (b) On July 1, 2005, the population of Cook County, Illinois, was 5,303,683. (c) In the United States, 0.621% of the population has the surname Brown. (d) You calculate your grade point average to be 3.87562.

Solution

- (a) The printing press can count how many books are printed and distributed (even if it takes a while), so there's no uncertainty in the number 7,812,564 and no need for significant figures.
- (b) People are constantly moving in and out of the county; there's uncertainty in a population count, so significant figures are appropriate.
- (c) People are constantly moving in and out of the country; there's uncertainty in a population count, so significant figures are appropriate.
- (d) There's no uncertainty here because GPA is the result of a calculation with known values associated with letter grades. Significant figures are not needed.