

### Exercise 1.43

Indicate which of the following are exact numbers: (a) the mass of a 3- by 5-in. index card, (b) the number of ounces in a pound, (c) the volume of a cup of Seattle's Best coffee, (d) the number of inches in a mile, (e) the number of micro-seconds in a week, (f) the number of pages in this book.

---

#### Solution

- (a) the mass of a 3- by 5-in. index card - Approximate
- (b) the number of ounces in a pound - Exact
- (c) the volume of a cup of Seattle's Best coffee - Approximate
- (d) the number of inches in a mile - Exact
- (e) the number of micro-seconds in a week - Approximate (there are approximately 24 hours in 1 day)
- (f) the number of pages in this book - Exact

Measurements are involved with the approximate items, and they introduce error. The exact items can be calculated with exact conversion factors or counted (even if it takes a while).