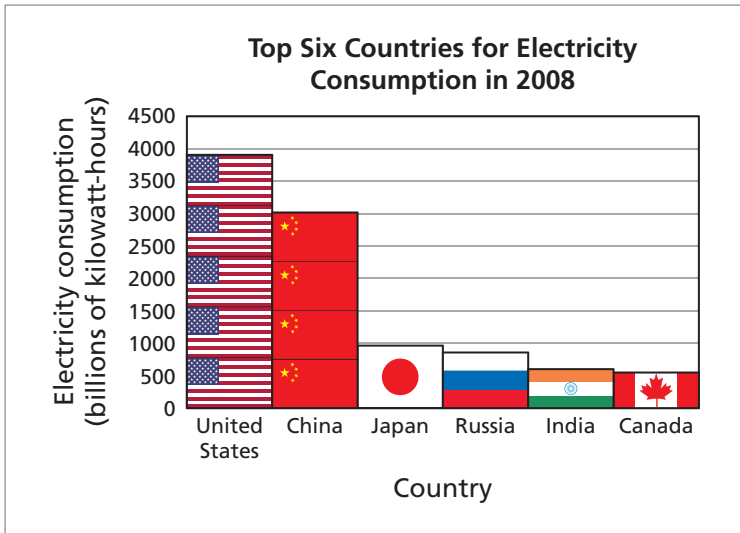


# 1.2 Exercises

**DATA** **Electricity Consumption** In Exercises 1–4, use the graph. Round your answer so it is reasonable for the context. (See Example 1.)



- Estimate the electricity consumption of the United States.
- Estimate the total electricity consumption of Japan, Russia, India, and Canada. Is it greater than or less than the electricity consumption of the United States?
- In 2008, the population of the United States was about 304 million. Estimate the amount of electricity consumed per person.
- In 2008, the population of Canada was about 33 million. Estimate the amount of electricity consumed per person. Which country consumed more electricity per person, Canada or the United States?

**Refrigerator Costs** Two refrigerator models and their annual electricity consumptions are shown. In Exercises 5–8, assume the price of electricity is \$0.1202 per kilowatt-hour (kWh). (See Example 2.)

- You are buying a refrigerator.
  - Estimate the annual electricity cost of each model.
  - How much will you save in electric bills each year by buying the top-freezer model instead of the side-by-side model?



**Top-freezer refrigerator**  
529 kWh/yr



**Side-by-side refrigerator**  
634 kWh/yr

- A top-freezer model with an ice dispenser consumes 90 kilowatt-hours per year more than the standard top-freezer model.
  - Estimate the annual electricity cost of the top-freezer model with the ice dispenser.
  - How much does the ice dispenser add to the annual electricity cost of the top-freezer model?
- Your current refrigerator consumes 700 kilowatt-hours per year and should last about 7 more years.
  - How much will your current refrigerator cost you over the next 7 years?
  - How much will the top-freezer model cost you over the same time period?
  - You buy the top-freezer model for \$549.99. Will the difference in electricity costs over the next 7 years cover the price of the new refrigerator? Explain.
- You own the top-freezer model. Suppose the price of electricity decreases to \$0.12 per kilowatt-hour. How much will you save in electric bills each year?