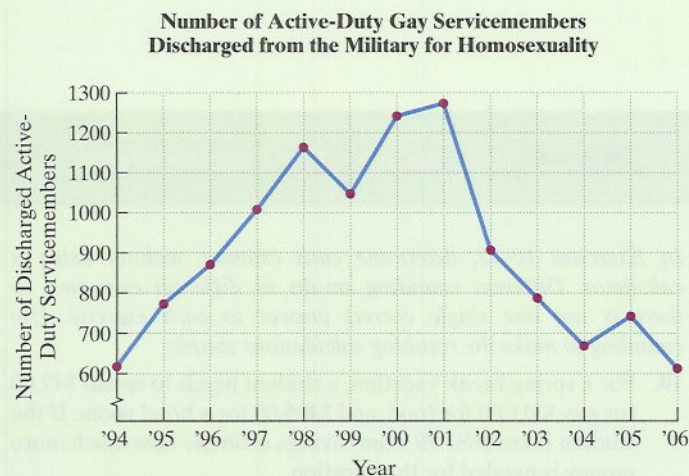


14. If the odometer of a car reads 71,911.5 miles and it averaged 28.9 miles per gallon, select the best estimate for the number of gallons of gasoline used.

a. 2400      b. 3200      c. 4000  
d. 4800      e. 5600

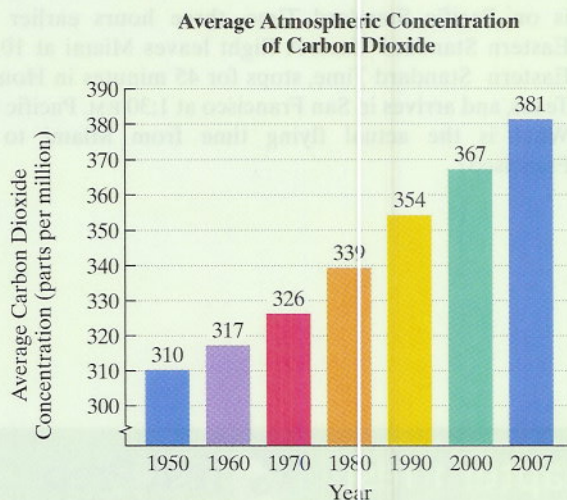
15. The stated intent of the 1994 “don’t ask, don’t tell” policy was to reduce the number of discharges of gay men and lesbians from the military. The line graph shows the number of active-duty gay servicemembers discharged from the military for homosexuality under the policy.



Source: General Accountability Office

- For the period shown, in which year did the number of discharges reach a maximum? Find a reasonable estimate of the number of discharges for that year.
  - For the period shown, in which year did the number of discharges reach a minimum? Find a reasonable estimate of the number of discharges for that year.
  - In which one-year period did the number of discharges decrease at the greatest rate?
  - In which year were approximately 1000 gay service-members discharged under the “don’t ask, don’t tell” policy?
16. The amount of carbon dioxide in the atmosphere, measured in parts per million, has been increasing as a result of the burning of oil and coal. The buildup of gases and particles

traps heat and raises the planet’s temperature. The bar graph shows the average atmospheric concentration of carbon dioxide for seven selected years.



Source: National Oceanic and Atmospheric Administration

- Estimate the yearly increase in the average atmospheric concentration of carbon dioxide. Express the answer in parts per million, rounded to the nearest hundredth.
  - Write a mathematical model that estimates the average atmospheric concentration of carbon dioxide,  $C$ , in parts per million,  $x$  years after 1950.
  - If the trend shown by the data continues, use your mathematical model from part (b) to project the average atmospheric concentration of carbon dioxide in 2050.
- The cost of renting a boat from Estes Rental is \$9 per 15 minutes. The cost from Ship and Shore Rental is \$20 per half-hour. If you plan to rent the boat for three hours, which business offers the better deal and by how much?
  - A bus operates between Miami International Airport and Miami Beach, 10 miles away. It makes 20 round trips per day carrying 32 passengers per trip. If the fare each way is \$11.00, how much money is taken in from one day’s operation?
  - By paying \$50 cash up front and the balance at \$35 a week, how long will it take to pay for a computer costing \$960?
  - In 2000, the population of Greece was 10,600,000, with projections of a population decrease of 28,000 people per year. In the same year, the population of Belgium was 10,200,000, with projections of a population decrease of 12,000 people per year.  
(Source: United Nations)  
According to these projections, which country will have the greater population in 2035 and by how many more people?