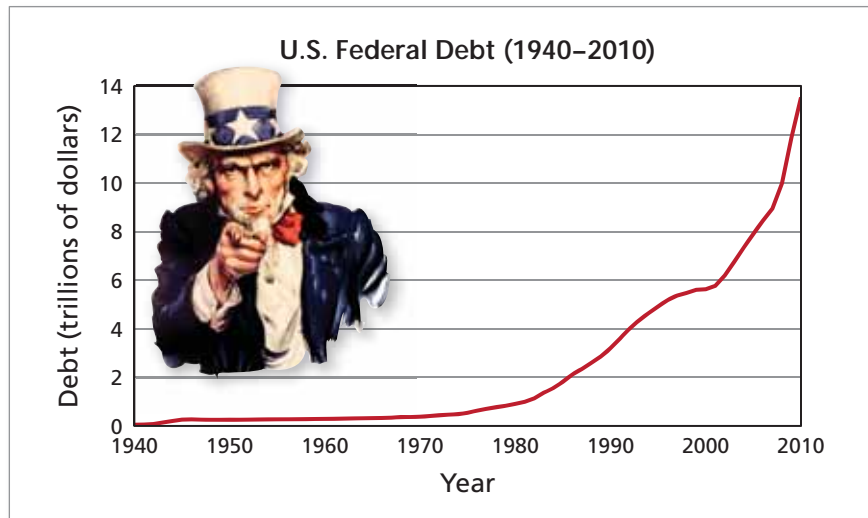


EXAMPLE 6 Comparing Debt Between Two Years

Was the federal government more in debt in 2010 than in 1983? Explain your reasoning.

**SOLUTION**

The simple answer is yes. The government owed about \$1.4 trillion in 1983 and about \$14 trillion in 2010. This simple answer, however, does not account for the fact that the dollar was worth less in 2010 than it was in 1983. You can account for this difference as follows.

The value of the dollar in 2010 (compared to 1983 dollars) was

$$\begin{aligned} V \text{ in 2010} &= \frac{100}{\text{CPI in 2010}} \\ &= \frac{100}{218.1} \\ &\approx \$0.459. \end{aligned}$$

So, in terms of 1983 dollars, the 2010 federal debt was about 45.9% of \$14 trillion, or about \$6 trillion. In other words, it was about 4 times greater than the federal debt in 1983.

✓ Checkpoint

Help at Math.andYOU.com

Discuss the following loan plan. Is it valid? Explain.



This scenario happened many times during the early 2000s.

1. Take out a mortgage for \$250,000 in 2005.
Down payment: \$30,000, Rate: 6%, Term: 30 years
2. Make a monthly payment of \$1320.
3. Depend on an annual inflation rate of 4%.
4. Depend on housing prices increasing by 10% annually.
5. Sell the house in 10 years for \$650,000.
The balance of your mortgage will be \$184,000.