Using a Linear Equation to Model Credit Card Debt

Credit card debt in the United States increased steadily from 1995 through 2003. The amount of debt y in billions of dollars can be modeled by the linear equation

$$y = 38.7x + 450,$$

where $x = 0$ represents 1995, $x = 1$ represents 1996, and so on. (*Source:* Board of Governors of the Federal Reserve System.)

(a) Use the equation to approximate credit card debt in the years 1995, 2000, and 2003.

(b) Write the information from part (a) as three ordered pairs, and use them to graph the given linear equation.
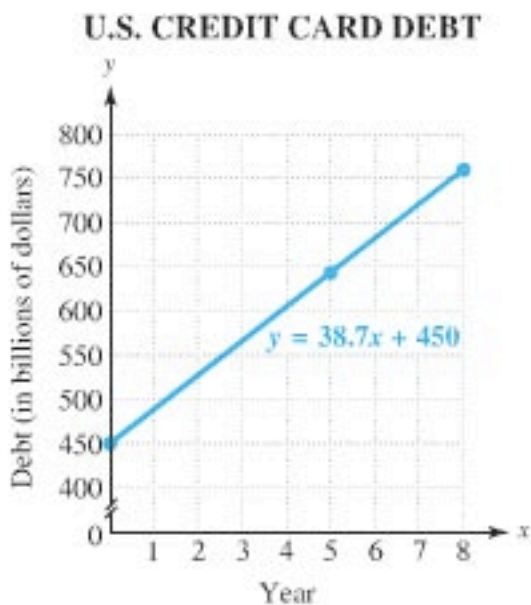
U.S. CREDIT CARD DEBT

FIGURE 16

(c) Use the graph and then the equation to approximate credit card debt in 2002.