

Exercise 66

An electricity company charges its customers a base rate of \$10 a month, plus 6 cents per kilowatt-hour (kWh) for the first 1200 kWh and 7 cents per kWh for all usage over 1200 kWh. Express the monthly cost E as a function of the amount x of electricity used. Then graph the function E for $0 \leq x \leq 2000$.

Solution

$$E(x) = \begin{cases} 10 + 0.06x & \text{if } 0 \leq x \leq 1200 \\ 10 + 0.06(1200) + 0.07(x - 1200) & \text{if } x \geq 1200 \end{cases}$$

