Exercise 16

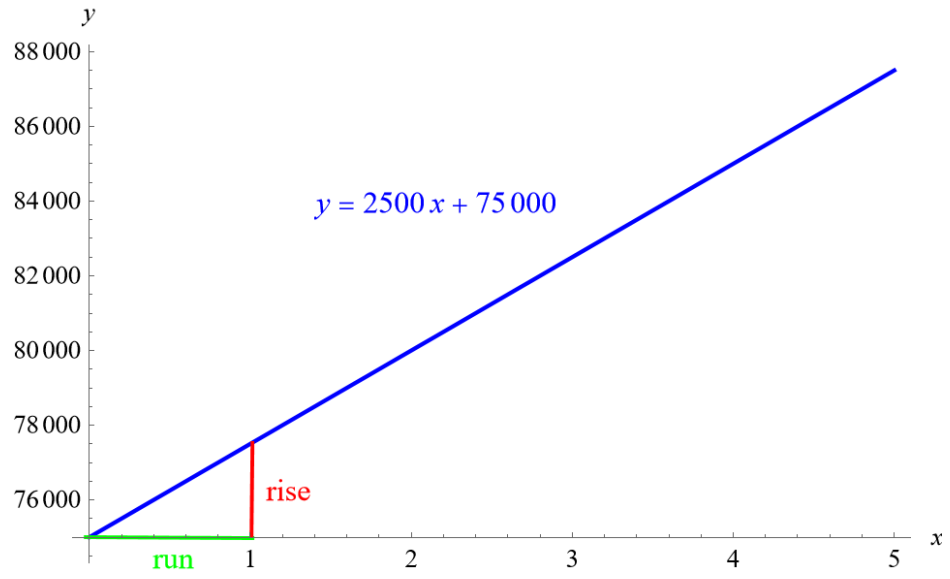
For the following exercises, consider this scenario: A town has an initial population of 75,000. It grows at a constant rate of 2,500 per year for 5 years.

If the function P is graphed, find and interpret the slope of the function.

Solution

Because the town's population grows at a constant rate, a linear function can be used to model it. The slope is 2500, the rate that the town's population increases per year, and the initial population is 75 000.

$$P(t) = 2500t + 75\,000$$



$$\text{slope} = \frac{\text{rise}}{\text{run}} = 2500$$