

Interpretations of Linear Functions

Learning Objectives

- Interpret slope as a rate of change
-

Interpret Slope as a rate of change

1. A linear relationship exists in a certain city between the number of claims in a given month at a particular insurance company, and the amount of money spent by the insurance company in that month. The equation that models the relationship is $y = 0.39x + 2.31$, where x is the number of claims for the month, and y is money paid in hundreds of thousands of dollars. Interpret the slope in the context of the problem.

 2. A manufacturing company determines that it takes \$10,000 to produce the first 5 items of a particular new product, and it takes \$13,900 to produce the first 25 items of the product. Find an equation in slope-intercept form for the cost to produce x items and interpret the slope in the context of the problem.
-

Recall how we calculate slope as $m = \frac{\Delta y}{\Delta x}$. Use that idea to interpret the slope: what are the units of y ? What are the units of x ? The slope is then number of "units of y " per one "unit of x ".

ANSWER KEY

1. The amount spent by the insurance company increases by about \$39,000 for each additional claim.
2. $y = 195x + 9025$, each additional item produced will cost \$195.