Profit The profit for a product is given by the function $P(x) = 939x - 12,207$, where $x$ is the number of units produced and sold. Find the marginal profit for the product.\(^1\)

The rate of change, or slope, of a profit function is called the marginal profit. This vocabulary is also true for total cost and total revenue functions. Take a look at page 53 of your textbook:

**Marginal Cost, Revenue, and Profit**

For total cost, total revenue, and profit functions\(^*\) that are linear, the rates of change are called **marginal cost**, **marginal revenue**, and **marginal profit**, respectively.

When you see the word “marginal”, you should think “slope” of the associated function.

In our case, the function $P(x)$ is already in the form $y = mx + b$ so it’s easy to read the slope, $m$, directly from the equation.

$m = 939$

The marginal profit for the product is $939$ per unit.

\(^*\) In this College Algebra text, “total cost” and “total revenue” are frequently used interchangeably with “cost” and “revenue” respectively.

\(^1\)Harshbarger/Yocco, *College Algebra In Context*, 5e, p. 58, #62.