Exercise 10

At 6 am, an online company has sold 120 items that day. If the company sells an average of 30 items per hour for the remainder of the day, write an expression to represent the number of items that were sold n after 6 am.

Solution

Since the rate that the company sells items per hour is constant, a linear function can be used to model the number of items sold. Let t be the number of hours after 6 am.

$$y = mt + b$$

b is the number of items that are sold initially by 6 am.

$$y = mt + 120$$

m is the rate that items are sold per hour.

$$y = 30t + 120$$

Therefore, after n hours, the number of items sold is

$$y = 30n + 120.$$