

Math 111 – Quiz 1

Name Key

A middle school student spends \$3 on a bag of candy bars and sells each candy bar for \$0.25. There are 40 candy bars in the bag. The profit, $P(x)$ of selling x candy bars is:

$$P(x) = 0.25x - 3$$

a) Calculate the following values:

$$P(0) = 0.25(0) - 3 = -3$$

$$P(40) = 0.25(40) - 3 = 10 - 3 = 7$$

b) What do $P(0)$ and $P(40)$ mean in real life?

Profit of 0 candies sold (is -\$3)
" " 40 " " (is \$7)

c) Sketch a graph using your data points. Show the scale on the x and y axes to show the relationship between the quantities.



d) What is the real-life domain of $P(x)$?

$[0, 40]$ Can't sell less than 0 candies
" " more than 40 "
or $\{x \mid 0 \leq x \leq 40\}$