

Discrete & Non-Discrete Functions

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Number of tablets (x)	17	22	25
Total cost in dollars (y)	10,183.00	13,178.00	14,975.00

a) Write an equation that describes the total cost, y , as a linear function of the number, x , of tablets purchased.

b) Is the function discrete? Explain.

c) What number does the function assign to 7? Explain.

2. A function C assigns to each word in the English language the number of letters in that word. For example, C assigns the number 6 to the word *action*.

a) Give an example of an input to which C would assign the value 3.

b) Is C a discrete function? Explain.

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a) Write an equation that describes the total cost, y , as a linear function of the number, x , of tablets purchased.

$$y = \frac{10,183}{17}x$$
$$y = 599x$$

b) Is the function discrete? Explain.

The function is discrete. You cannot have half of a tablet; therefore, it must be a whole number of tablets, which means it is discrete.

c) What number does the function assign to 7? Explain.

The function assigns 4,193 to 7, which means that the cost of 7 tablets would be \$4,193.00.

2. A function C assigns to each word in the English language the number of letters in that word. For example, C assigns the number 6 to the word *action*.

a) Give an example of an input to which C would assign the value 3.

Any three-letter word will do.

b) Is C a discrete function? Explain.

The function is discrete. The input is a word in the English language, therefore it must be an entire word, not part of one, which means it is discrete.

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