Discrete & Non-Discrete Functions

1. A linear function has the table of values below. It gives the costs of purchasing certain numbers of movie tickets.

Number of tickets (x)	3	6	9	12
Total cost in dollars (y)	27.75	55.50	83.25	111.00

a) Write the linear function that represents the total cost, y, for x tickets purchased.

b) Is the function discrete? Explain.

c) What number does the function assign to 4? What do the question and your answer mean?

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a) Write the linear function that represents the total cost, y, for x tickets purchased.

$$y = \frac{27.75}{3}x$$
$$y = 9.25x$$

b) Is the function discrete? Explain.

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

c) What number does the function assign to 4? What do the question and your answer mean?

It is asking us to determine the cost of buying 4 tickets. The function assigns 37 to 4. The answer means that 4 tickets will cost $\$37.00$.