**QUIZ 8-4A**

Below is a square pattern.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| steps: |  | 1 |  | 2 | |  |  | 3 |  |  | 4 | | | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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1. Draw the 4th step for the pattern.
2. Complete the table and graph for the square pattern. Make sure to include labels.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  | | --- | --- | | **step # (*x*)** | **# of squares (*y*)** | | 0 |  | | 1 |  | | 2 |  | | 3 |  | | 4 |  | | 5 |  | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |

1. Write an equation to represent the pattern.
2. Find the step number when there are 89 squares.
3. What value represents the rate of change for this pattern?
4. How do you interpret the rate of change in the picture? The table? The graph?

**QUIZ 8-4A**

**Continued**

1. Circle all of the five representations below that could represent a function.

*y*

*x*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  | | --- | --- | | *x* | *y* | | 1 | 12 | | 3 | 9 | | 4 | 12 | | 5 | 15 | | 9 | 20 | | 7  11  12  3    7  9 | | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |   . |
| (12, 3), (8, 6), (7, 7), (12, 8) | | (1, 7), (4, 12), (10, 7), (2, 15) | |

1. Carl went for a morning walk represented by the graph below.

|  |  |
| --- | --- |
| 1. Could it represent a function? 2. Does it appear to be linear? 3. When was Carl walking the fastest? Explain. | 1,200 yd  500 yd  0  2 min  3 min  minutes |

1 3 5

10

50

Week #

$ in bank

Noah

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 1. Liam started a savings plan with $30 in the bank and is saving $20 each week. Noah started a savings plan at the same time and kept track on this graph.   a. Graph Liam’s savings on this graph.  b. Who is saving at a greater rate? Explain. | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |  |  |  |  |  |  | |