**Math 3: Review Standard F-LE.A**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_

1. A roofer is nailing shingles to the roof of a house in rows. There are three shingles in the top row. Since the roof widens from top to bottom, three additional shingles are needed in each successive row.

(a) Is this an arithmetic or geometric (b) Write the explicit rule. (c) Write the recursive rule.

sequence? Explain why.

2. You want to save $30 to buy a jacket. You begin by saving a dollar in the first week. You plan to save an additional dollar each week after that. For example, you will save $2 in the second week, $3 in the third week, and so on.

(a) Is this an arithmetic or geometric (b) Write the explicit rule. (c) Write the recursive rule.

sequence? Explain why.

3. To prove that objects of different weights fall at the same rate, Galileo dropped two objects with different weights from the Leaning Tower of Pisa in Italy. The objects hit the ground at the same time. When an object is dropped from a tall building, it falls about 16 feet in the 1st second, 48 feet in the 2nd second, and 144 feet in the 3rd second, regardless of its weight.

(a) Is this an arithmetic or geometric (b) Write the explicit rule. (c) Write the recursive rule.

sequence? Explain why.

4. A one-ton ice sculpture is melting so that it loses one-fifth of its weight per hour.

(a) Is this an arithmetic or geometric (b) Write the explicit rule. (c) Write the recursive rule.

sequence? Explain why.

5. Write the exponential OR LINEAR function represented by the table of values.

|  |  |
| --- | --- |
| *x* | *y* |
| 0 | 1 |
| 1 | ¾ |
| 2 | 9/16 |
| 3 | 27/64 |

|  |  |
| --- | --- |
| *x* | *y* |
| 0 | 4 |
| 1 | 15 |
| 2 | 26 |
| 3 | 37 |

|  |  |
| --- | --- |
| *x* | *y* |
| 0 | -1 |
| 2 | -4 |
| 4 | -16 |
| 6 | -64 |