|  |
| --- |
| **Investigating Arithmetic Sequences** |
| Identifies how an arithmetic sequence increases or decreases and describes the initial term and constant change “This is a decreasing sequence. Initial term: 14 red tiles; Constant change: take away 1 red tile.” | Represents arithmetic sequences in tables of values and on graphs A graph with numbers and a number of tiles  Description automatically generated“The table and graph show the number of tiles decreases by 1 each time. The points on the graph lie on a straight linethat goes down to the right.” | Identifies a rule that relates the positions and terms of an arithmetic sequence

|  |  |
| --- | --- |
| **Term Number** | **Number of Tiles** |
| **1** | **14** |
| **2** | **13** |
| **3** | **12** |
| **4** | **11** |
| **5** | **10** |

“By looking at the table, I see that the number of tiles is equal to 15 minus the term number.” |
| **Observations/Documentation** |
|  |  |  |

|  |
| --- |
| **Investigating Arithmetic Sequences (cont’d)** |
| Writes an algebraic expression that relates the positions and terms of an arithmetic sequence

|  |  |
| --- | --- |
| **Term Number** | **Number of Tiles** |
| 1 | 14 |
| 2 | 13 |
| 3 | 12 |
| 4 | 11 |
| 5 | 10 |

“The number of tiles is equal to 15 minus the term number. I can write this rule as 15 − *n*, where *n* represents the term number.” | Determines the missing term in an arithmetic sequence (using expression)

|  |  |
| --- | --- |
| **Term Number** | **Term Value** |
| 1 | 8 |
| 2 | 16 |
| 3 | ? |
| 4 | 32 |
| 5 | ? |
| 6 | 48 |

“Rule: Multiply the term number by 8 to get the term value. I can write this rule as: 8*n*, where *n* represents the term number.Term 3: 8*n* = 8 $×$ 3, or 24Term 5: 8*n* = 8 $×$ 5, or 40.” | Fluently identifies, creates, and extends various arithmetic sequences to solve real-life problems

|  |  |
| --- | --- |
| **Box** | **Cost to Ship ($)** |
| 1 | 3.50 |
| 2 | 7.00 |
| 3 | 10.50 |

How much would it cost to ship 9 boxes?“To determine the shipping cost, multiply the number of boxes by $3.50. I would use the expression 3.5*n*, where *n* is the number of boxes: 3.5*n* = 3.5 $×$ 9, or 31.5So, the cost to ship 9 boxes is $31.50.” |
| **Observations/Documentation** |
|  |  |  |