Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Algebra I - \_\_\_\_\_\_\_\_\_

**Four Views of a Function –** Activity 2 Building Trucks

Suppose you are building a truck, based on the pattern below.

Use the table to find the relationship between the number of blocks you need and the

term number.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Term Number** | **Visual****(Figure)** | **Written Description** | **Process Column** | **Total Number of Blocks** |
| **1** |  |   The truck has a  base of 3 blocks with 2 blocks  on top. |  | 5 |
| **2** |  |  |  | 8 |
| **3** |  |  |  |  |
| **4** |  |  |  |  |
| ***n*** |  |  |  |  |

**Verbal**: **Algebraic:**

 Suppose you are building a truck, 1. Use the process column to write a function

 based on the pattern below. that expresses the relationship between

 Use the table to find the relationship between the total number of blocks needed to build

 the number of blocks you need the truck and the term number.

 and the term number.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Table: Graph:**

2a) What is the independent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b) What is the dependent variable? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c) What is a reasonable domain?

 D: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 d) What is a reasonable range?

 R: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



|  |  |
| --- | --- |
| **Term Number** | **Total Number of Blocks** |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| ***n*** |  |

3. Find the total number of blocks needed for 50th figure?

4. If there are a total of 242 blocks, what term number is this?

5. What does the ordered pair (11, 35) mean?

6. Does the ordered pair (23, 71) belong to this graph? Justify your answer?

7. Is this situation proportional or non-proportional? Why?

 Four Quadrant Model of a Function

Verbal Description: Write an equation:

Adrian has 18 video games. He is going to buy 3 games each month.

 “*n*” is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 ”*T*” is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Independent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Table: Graph: **(Be sure to label both axes)**

***T***

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| --- | --- | --- |
| *n* | Process Column | *T* |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 10 |  |  |
| *n* |  |  |

***n***

 1 2 3 4 5 6 7 8 9 10

 **Number of months**

1. How many video games will Adrian have after 14 months?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How many months will it take Adrian to buy 42 video games?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Is this situation proportional or non-proportional? Why?

|  |  |
| --- | --- |
| **Verbal Rule**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(output) is a function of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(input). | **Function Rule (equation)**Independent Variable:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Dependent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Table**

|  |  |  |
| --- | --- | --- |
| **Input** | **Process** | **Output** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What is the input when the output is -16?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What is the output when the input is 18?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*When choosing your input values:** Choose easy numbers (fits on graph, output will be integers…)
 | **Graph** |

Is this situation proportional or non-proportional? Why?