Variables and Patterns Investigation 3.3 Homework-Equations with Two Operations Day 1

**Directions**: For # 1-5 use the given equation to complete the table

1.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *x* | 1 | 2 | 3 | 4 | 10 | 20 |  |
| *y* |  |  |  |  |  |  | 55 |

2.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *t* | 1 | 2 | 3 | 4 | 10 | 20 |  |
| *q* |  |  |  |  |  |  | 222 |

3.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *m* | 1 | 2 | 3 | 4 | 10 | 20 |  |
| *n* |  |  |  |  |  |  | 20 |

4.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *d* | 1 | 2 | 3 | 4 | 10 | 20 |  |
| *e* |  |  |  |  |  |  | 30 |

5.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *x* | 1 | 2 | 3 | 4 | 10 | 20 |  |
| *y* |  |  |  |  |  |  | 30 |

For #6-7, describe the relationship between the variables with an equation

6.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *x* | 0 | 1 | 2 | 5 | 10 | 20 |
| *y* | 0 | 7 | 14 | 35 | 70 | 140 |

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

7.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *m* | 0 | 1 | 2 | 5 | 10 | 20 |
| *n* | 22 | 21 | 20 | 17 | 12 | 2 |

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

Variables and Patterns Investigation 3.3 Homework-Equations with 2 Operations Day 2

Sean plans to buy a new tablet for $315. The store offers him an interest-free payment plan that allows him to pay in monthly installments of $25.

1. How much will Sean owe after one payment? After two payments? After three payments?

2. Explain in words how the amount owed depends on the number of payments made.

3. Write an equation for calculating the amount owed *A* for any number of payments *N.*

4. Use your equation to make complete the table and graph showing the relationship between *N* and *A*



|  |  |
| --- | --- |
| Number of Payments (*N*) | Amount Owed (*A*) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

5. As *N* increases by 1, how does *A* change? How is this change shown in the table? How is it shown in the graph?

6. How many payments will Sean have to make in all? How is this shown in the table? In the graph?