

Linear Relations - Number Patterns



In this tutorial, we'll explore how to develop an equation for describing a *relationship* in a number pattern.

Term Number, t	Term Value, v
1	7
2	12
3	17
4	22

- How would you demonstrate your thinking as you study the table of values and try to determine a number pattern?
- How would you describe the number patterns you see in this table of values?

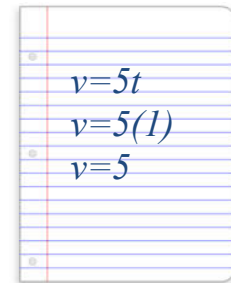
Having identified a number pattern in the table of values, we'll use the number pattern to write an equation that *relates* the term value, v , to the term number, t .

What do we mean, when we say...*write an equation that relates the term value, v , to the term number, t* ? Can you think of other ways to say this?



The calculation below shows why the equation $v=5t$ does not relate the term value, v , to the term number, t .

Term Number, t	Term Value, v
1	7
2	12
3	17
4	22



- Can you predict the mathematical correction required to make the equation $v=5t$ *relate* the term value, v , to the term number, t ? How would you explain your reasoning in making this prediction?
- How would you explain and demonstrate testing your prediction?
- How would you explain and demonstrate verifying your equation with the remaining values in the table?
- How does the equation provide us with the same information illustrated in the table of values?

$$v = 5t + 2$$



- How would you explain and demonstrate using the equation to determine the value of the 12th term number?

$$v = 5t + 2$$

- How would you explain and demonstrate using the equation to determine which term number has the term value 107?

$$v = 5t + 2$$

Let's make a small adjustment to our table of values...

Term Number, t	Term Value, v
1	-7
2	-12
3	-17
4	-22

- How would you describe the changes to the previous pattern?
- How would you demonstrate your thinking as you rewrite the previous equation to reflect the change in the number pattern?

Linear Relations - Number Patterns - Skills Checklist



- I can identify a number pattern in a table of values
- I can describe a relationship using the number pattern in my table of values
- I can explain how I use the number pattern in my table of values to determine a missing term/value
- I can write an equation to represent a relationship illustrated by a number pattern
- I can explain and demonstrate how I use my equation to solve for a missing term in a relationship

Linear Relations - Number Patterns - Worksheet



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