Writing Conjectures

1. Complete the conjecture based on the examples:

Examples:    

The product of two odd numbers is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Make up three examples and then complete the conjecture:

The sum of an even number and an odd number is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Complete the conjecture:

The product of an even number and an odd number is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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Examples:    

The product of two odd numbers is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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The sum of an even number and an odd number is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Complete the conjecture:

The product of an even number and an odd number is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Counterexamples

Show that each conjecture is false by finding a counterexample.

1. Supplementary angles are adjacent. (You may draw a picture).
2. The sum of two odd numbers is odd.



1. The product of two even numbers is positive.
2. Kennedy is the youngest U.S. president to be inaugurated.

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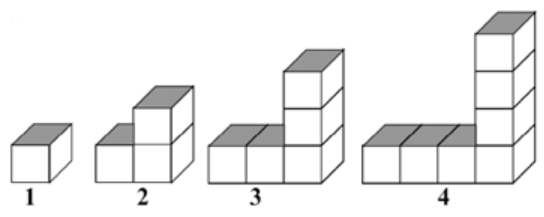
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1. The product of two even numbers is positive.
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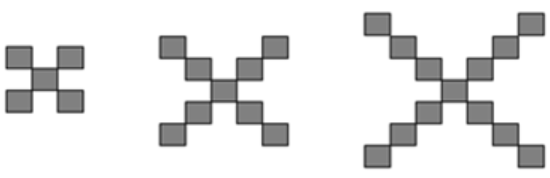
Conjectures about Patterns

1. Complete the table. Then, find the algebraic rule that fits the pattern.



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Step (*n*) | **1** | **2** | **3** | **4** | **5** | **6** |
| Blocks (*f(n)*) | 1 | 3 |  |  |  |  |

The function rule for this pattern is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Step (*n*) | **1** | **2** | **3** | **4** | **5** | **6** |
| Squares (*f(n)*) | 5 | 9 |  |  |  |  |

The function rule for this pattern is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Lines (*n*) | **1** | **2** | **3** | **4** | **5** | **6** |
| Regions (*f(n)*) | 2 | 3 |  |  |  |  |

|  |
| --- |
| Function Bank |



The function rule for this pattern is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.