

Geometry

Chapter 2

Section 2-1

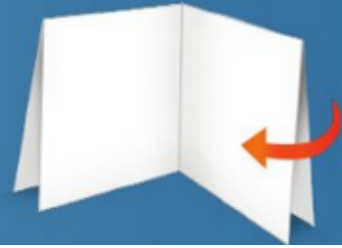
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Concepts

Inductive Reasoning	Reasoning based on observed patterns
Conjecture	Conclusion reached based on inductive reasoning
Counterexample	An example showing a statement is false

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Fold a piece of paper in half. When you unfold it, the paper is divided into two rectangles. Refold the paper, and then fold it in half again. This time when you unfold it, there are four rectangles. How many rectangles would you get if you folded a piece of paper in half eight times? Explain.



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Finding Patterns

Find the pattern and then write the next three terms in the sequence.

1, 4, 7, 10, 13, 16, 19, 22, 4, 6, 10, 16, 24, 34, ...

+ 3

+2 +4 +6 +8 +12
+2 +2 +2

46, 60, 76

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Finding Patterns

Find the pattern and then write the next three terms in the sequence.

1, 1, 2, 3, 5, 8, 13, 21...

+0 +1 +1 +2 +3 +5 +8

34, 55, 89

$$1+1=2$$

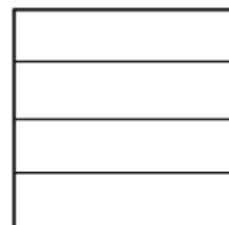
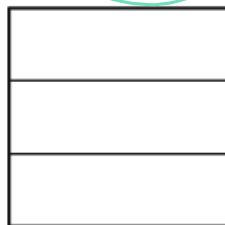
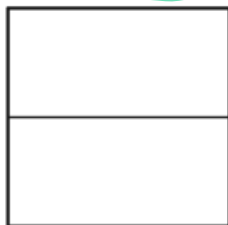
$$1+2=3$$

$$2+3=5$$

⋮



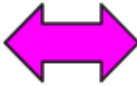




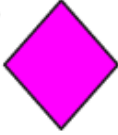

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Find the pattern among the shapes



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Conjecture

1	2	3	4	5	6	7	8	9
								
Red	Green	Pink	Black	White	Red	Green	Pink	Black

What shape is the 12th term? What color is the 18th term?

Green Diamond Pink

What shape is the 21st term? What is the shape and color of the 40th term?

Red side-side arrow white Diamond


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Counterexample

Give a counterexample to show that the statement is false.

A four sided figure that is not a square is a rectangle.

could be trapezoid



Sep 4-8:59 AM

Numerical Conjecture

What is the sum of the first four even numbers?

2, 4, 6, 8

20

What is the sum of the first six even numbers?

42

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Numerical Conjecture

What is the sum of the first 100 even numbers?

Conjecture

$$100 \cdot 101 = 10,100$$

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Homework

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#6-11 all, 19-25 all, 33-37 all, 49

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