

Section 2 2 Conjecture and Inductive Reasoning

Lesson 037 | Geometry | Conjectures and inductive reasoning

<https://www.youtube.com/watch?v=7vfqdiTU338>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

The sequence begins 8, 17, 26, 35. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

02

The sequence begins 11, 21, 31, 41. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

03

The sequence begins 6, 13, 20, 27. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

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04

The sequence begins 3, 10, 17, 24. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

05

The sequence begins 5, 18, 31, 44. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

06

The sequence begins 7, 20, 33, 46. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

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01

The sequence begins 8, 17, 26, 35. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

An arithmetic pattern suggests next term 44 and $a_m = 8 + 9(m-1)$. Finitely many data can fit many rules; for example add $(m-1)(m-2)(m-3)(m-4)$, zero for the four observed indices but not the fifth.

02

The sequence begins 11, 21, 31, 41. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

An arithmetic pattern suggests next term 51 and $a_m = 11 + 10(m-1)$. Finitely many data can fit many rules; for example add $(m-1)(m-2)(m-3)(m-4)$, zero for the four observed indices but not the fifth.

03

The sequence begins 6, 13, 20, 27. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

An arithmetic pattern suggests next term 34 and $a_m = 6 + 7(m-1)$. Finitely many data can fit many rules; for example add $(m-1)(m-2)(m-3)(m-4)$, zero for the four observed indices but not the fifth.

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04

The sequence begins 3, 10, 17, 24. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

An arithmetic pattern suggests next term 31 and $a_m = 3 + 7(m-1)$. Finitely many data can fit many rules; for example add $(m-1)(m-2)(m-3)(m-4)$, zero for the four observed indices but not the fifth.

05

The sequence begins 5, 18, 31, 44. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

An arithmetic pattern suggests next term 57 and $a_m = 5 + 13(m-1)$. Finitely many data can fit many rules; for example add $(m-1)(m-2)(m-3)(m-4)$, zero for the four observed indices but not the fifth.

06

The sequence begins 7, 20, 33, 46. Conjecture its next term and a formula. Explain why four terms do not prove the formula.

An arithmetic pattern suggests next term 59 and $a_m = 7 + 13(m-1)$. Finitely many data can fit many rules; for example add $(m-1)(m-2)(m-3)(m-4)$, zero for the four observed indices but not the fifth.