Counter Examples

Counterexample: An example that invalidates a conjecture.

A conjecture makes a broad statement for all future examples of a pattern. The easiest way to disprove a conjecture or theory or statement is to find an example that does not match the conjecture (counter example).

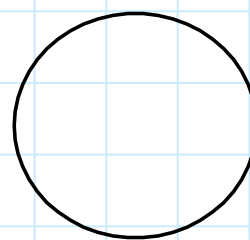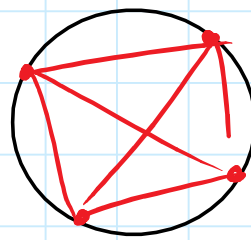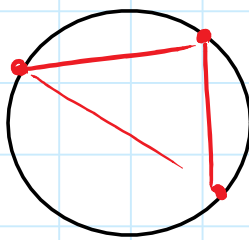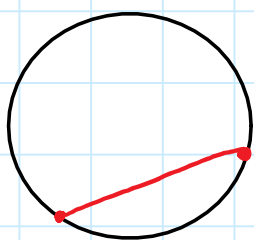**Take a look at the following pattern and make a conjecture.**

$1^2=1$

$11^2=121$

$111^2=12321$

$1111^2=1234321$

Can you find a counterexample to the pattern?

Try: $1,111,111,111^2$

Analyze the following figures. Each figure is created by drawing a circle with points along the circumference. Lines are drawn connecting all the points, which then create separate regions in the circle. Make a conjecture that links the number of points to the number of regions.

Number of Points	2	3	4	5	6
Number of Regions					

Summary: A counter example is an example that follows the requirements of a pattern but does not follow the prediction made by a conjecture. A single counter example is enough to disprove a conjecture.

Question: What should we do with our conjecture after we have found a counter example?

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