

Use Inductive Reasoning

Vocabulary	Definition	Example														
<p>CONJECTURE</p>	<p>A conjecture is an <u>unproven statement</u> that is <u>based on observations</u></p> <p><i>* Not all conjectures will be true</i></p>	<p>- It's cloudy outside therefore it's going to rain.</p> <p>- All supplementary angles are linear pairs.</p>														
<p>INDUCTIVE REASONING</p>	<p>Inductive reasoning is the process of finding a <u>pattern</u> for specific cases and then <u>writing a conjecture</u> for the <u>general case</u></p>	<p><math>0 \triangle 0 \triangle 0 \dots \triangle</math> the pattern is circle then triangle</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>...</td> <td><math>n^{\text{th}}</math></td> </tr> <tr> <td>y</td> <td>0</td> <td>1</td> <td>4</td> <td>9</td> <td></td> <td><math>n^2</math></td> </tr> </table> <p><math>y = x^2</math> ← rule for the general case</p>	x	0	1	2	3	...	$n^{\text{th}}$	y	0	1	4	9		$n^2$
x	0	1	2	3	...	$n^{\text{th}}$										
y	0	1	4	9		$n^2$										
<p>COUNTEREXAMPLE</p>	<p>A counterexample is a <u>specific case</u> for which the <u>conjecture is false</u>.</p>	<p>All angles that have a supplement also have a complement.</p> <p><math>m \angle A = 60^\circ</math>    supplement = <math>120^\circ</math>                                           complement = <math>30^\circ</math></p> <p><u>counterexample:</u>  <math>m \angle A = 93^\circ</math>    supplement = <math>87^\circ</math>                                           complement = NO</p>														