

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**The Mystery of Mary Celeste**

Read through the handout then think about the following questions:

1. What information is the most significant?

- they escaped the pirates using the boats & nav. tools  
- missing documents are a cover up.

- use the life boats to escape  
- navigation.

2. What are some explanations for the mystery?

• Pirate Theory

• Domestic Struggles

The original crew were wanted for something & why trash everything?

3. Decide on an explanation and develop an argument to support it.

4. What piece of evidence, currently missing, would further support your explanation?

But why announce that they stole it?!?

Decide if you agree or disagree with the following:

1. When studying evidence or examples, the patterns you see will lead you to the correct conclusion. (True or False)

$0.33333331 = 0.\bar{3}$

2. Examining examples can help you discover patterns and make predictions. (True or False)

Inductive Reasoning - find examples/evidence and build to a bigger theory.

3. There is only one pattern that can be used to predict the next three terms after 1, 4, 9, 16, ... (True or False)

1. 1 4 9 16 25 36 49  
+3 +5 +7 +9 +11 +13 add the next odd #

2. +2 +2 +2 ... add two to the previous

3.  $1^2$   $2^2$   $3^2$   $4^2$   $5^2$   $6^2$   $7^2$  ... difference.

**Definitions**

Inductive Reasoning

Take a small number of comparable examples and draw a larger conclusion, or extend that pattern.

Conjecture

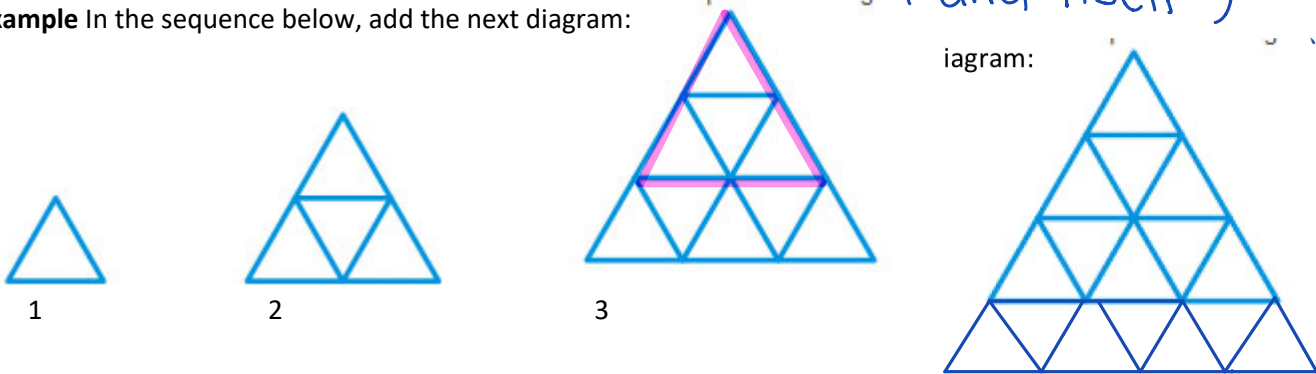
Conclusions drawn from incomplete information.  
1, 4, 9, 16, 20

**Example** Make a conjecture for each of the situations below:

- a) Sunny days make people happy. It is a sunny day,  
Everyone is happy.
- b) An ambulance arrives at the school.  
Someone is sick
- c) Doctors are smart. Suzy is a doctor.  
Suzy is smart
- d) One of these numbers doesn't belong: 2, 3, 4, 7, 11, 13, 17 - missing 5

The rest are prime (a number that only has 2 factors 1 and itself)

**Example** In the sequence below, add the next diagram:



Complete the chart for the pattern above:

Diagram	1	2	3	4	5
# small triangles	1	4	9	16	25

↑ of the same size.

Based on your observations above, how many triangles would be in the 10<sup>th</sup> diagram? 100

**Example** The next number in the sequence 1, 1, 2, 3, 5, 8, 13, 21, ... is 34

$1 + 1 = 2$

$1 + 2 = 3$

$2 + 3 = 5$

$3 + 5 = 8$

Assignment

p. 12 #1, 3, 5, 9-12

Quiz Next Day!

$$5 + 8 = 13 \text{ oops!!}$$

in

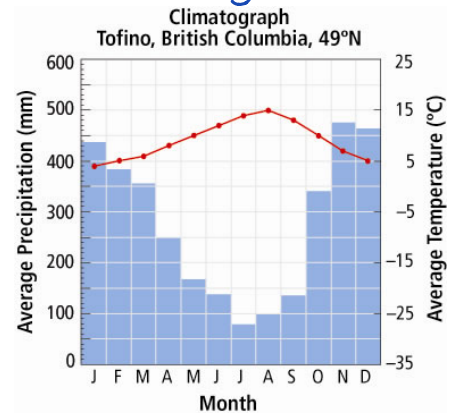
**Example** What happens when you add two odd numbers together? let  $x = \text{any integer}$

$$2x \text{ (always even)}$$
$$2x + 1 \text{ (always be odd)}$$
$$2y + 1$$

$$y = \text{any integer}$$

$$(2x + 1) + (2y + 1) = 2x + 2y + 2$$
$$= 2(x + y + 1)$$

**Example** Make two conjectures based on the information in the graph:



**Figure 1.9** The statistics for this graph came from Tofino, British Columbia, which is in the temperate rainforest biome.