

**1.1**  
**Practice Questions**

**Part 1**

**For each of the following questions:**

**Step.1. Provide at least three examples.**

**Step.2. Observe the pattern and make a conjecture.**

Q.1. Make a conjecture about the product of two even integers.

Q.2. Make a conjecture about the product of an odd and an even integer.

Q.3. Make a conjecture about the sum of two even integers.

Q.4. Make a conjecture about the sum of two odd integers.

Q.5. Step. 1. Choose an integer (even or odd)

Step. 2. Multiply by 2

Step. 3. Add 1

Step. 4. Observe the pattern

Step. 5. Make a conjecture.

Q.6. Step. 1. Choose an integer (even or odd)

Step. 2. Multiply by 2

Step. 3. Add 2

Step. 4. Observe the pattern

Step. 5. Make a conjecture.

**Part 2**

**For each of the following questions:**

**Step.1. Provide at least three examples.**

**Step.2. Observe the pattern and make a conjecture.**

Q.7. Make a conjecture about the sum of the measures of the angles in a quadrilateral.

Q.8. Make a conjecture about the measures of the opposite angles in a parallelogram.

Q.9. Make a conjecture about the shape that is created by joining the midpoints of adjacent sides in any quadrilateral.

## Part 3

Work with a partner to solve the following questions.

Q.10. Make a conjecture about what might have happened? (Seeeeeeeeee Page # 4 - 5)

Q.11. What evidences support your conjecture? (Yes, Seeeeeeeeee Page # 4 - 5)

### 1 Getting Started

#### The Mystery of the *Mary Celeste*

The *Mary Celeste*, a Canadian-built 100-foot brigantine, set sail from New York on November 7, 1872, with Captain Briggs, his wife Sarah, his two-year old daughter Sophia, and a crew of seven. Five weeks later, on December 13, 1872, the *Mary Celeste* sailed into the Bay of Gibraltar with a completely different crew.

**Timeline for the Voyage of the *Mary Celeste***

**Nov. 15** Dei Gratia sailed from New York

**Nov. 7** The *Mary Celeste* sets sail from New York

**Nov. 26 to Dec. 4** Weather "blowing hard" according to Captain Morehouse of the ship Dei Gratia.

**Dec. 5** According to Captain Morehouse, the *Mary Celeste* is found drifting. Sailors from his ship board the *Mary Celeste*. No one is found aboard.

**Nov. 19**

**Dec. 1**

**Dec. 2**

**Dec. 4, noon**

**Dec. 3**

**Nov. 24** Santa Maria

**Nov. 25** An entry in the *Mary Celeste*'s log says that the ship was at the island of Santa Maria in the Azores.

**Dec. 4, about 1 pm** *Mary Celeste* and Dei Gratia meet at this point.

**Dec. 13** The *Mary Celeste* is sailed into the Bay of Gibraltar by a crew from the Dei Gratia.

**Atlantic Ocean**

**Spain**

**Gibraltar**

**AZORES**

**San Miguel**

**Santa Maria**

**Dei Gratia**

**Mary Celeste**

**Condition of the *Mary Celeste*, as Reported to Captain Morehouse**

- The ship's hull was not damaged.
- No crew or passengers were on board.
- No boats were on board.
- Ropes were dangling over the sides of the ship.
- Only one of two pumps was working.
- The forward and stern hatches were open.
- Water was found between the decks.
- The only dry clothing was found in a watertight chest.
- Kitchenware was scattered and loose in the galley.
- The galley stove was out of place.
- No chronometer or sextant was found on board. Both of these instruments are used for navigation.
- The ship's clock and compass were not working.
- The ship's register was missing. The ship's register is a document that notes home port and country of registration.
- The ship's papers were missing. These papers could have included a bill of sale, ownership information, crew manifest, and cargo information.
- The cargo, 1701 barrels of commercial alcohol, had not shifted. When unloaded in Genoa, 9 barrels were found to be empty.
- The alcohol was not safe to drink, but it could have been burned.

**7 How can you use this information to develop a plausible explanation about what happened to the crew?**

A. With a partner, decide what pieces of evidence are most significant.

B. Discuss with your partner possible explanations for the evidence.

C. Choose one explanation, and develop an argument to support it.

D. Find a pair of students with a different explanation. Share your ideas.

E. Build a consensus for an explanation that your group of four could support.

F. What is one other piece of evidence, currently missing, that would further support your explanation?

**WHAT DO You Think?**

Decide whether you agree or disagree with each statement. Explain your decision.

1. When studying evidence or examples, the patterns you see will lead you to the correct conclusion.
2. Examining examples can help you discover patterns. A pattern can be useful for making predictions.

The ship shown here is the *Alagata*, which was built as a tribute to ships of the past, but it is of the same class as the *Mary Celeste*. Under full sail, the brigantine *Mary Celeste* would have looked a lot like this.