

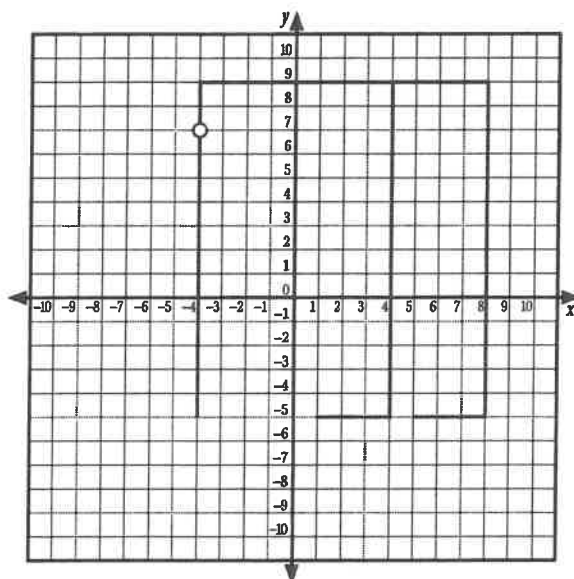
NAME: _____

6.NS.6(b) Task • The Number System

Port Royal: A Sunken City

Introduction

The population of Port Royal, a city in southeastern Jamaica, grew so quickly that by the mid-seventeenth century, people were filling in areas of water in order to create more land for building new homes and stores. On June 7, 1692, an earthquake caused much of the sandy city to sink straight down into the ocean. Since then, underwater archeologists have explored the sunken ruins. They have recorded their findings of one particular building on a coordinate plane. How could the use of coordinates help archeologists determine which quadrant an artifact is located in? Use the drawing on the coordinate plane below to record your answers to the following questions.



Task Questions

1. Archeologists found evidence of a stairway located at the ordered pair $(-2, -1)$. Another stairway was found at the ordered pair represented by the reflection of $(-2, -1)$ over the y -axis. What ordered pair represents the second stairway? Plot both ordered pairs on the coordinate plane.

2. Evidence of a doorway was found at $(-3, 5)$ and $(-4, 5)$. A similar doorway was found at the ordered pairs that are a reflection of $(-3, 5)$ and $(-4, 5)$ over the x -axis. What ordered pair represents this doorway? Plot the ordered pairs that represent both doorways on the coordinate plane.

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3. An entry was found at the location of the reflection of $(-4, -5)$ over both the x - and y -axes. What is the location of this entry? Plot the ordered pair on the coordinate plane.

4. It is believed a third set of stairs was located in the fourth quadrant. Based on information that you've already been given about the two other stairways, where do you think the third set of stairs was located? Plot the ordered pair. Explain your answer.

5. Scraps of leather were found at $(1, 3)$. In which quadrant was the leather found? Plot the location of the leather. Explain why you plotted the point in this quadrant.

6. Soles of shoes were found inside the building in the third quadrant. Plot a possible location of a shoe sole. Explain your answer.

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