Name _____ Date _____ Period: _____

§1.1 The Geometric System

Today we will learn how to apply axioms, draw conclusions, and identify examples of synthetic and analytic geometry.

Definitions:

Axiom (Postulate)-

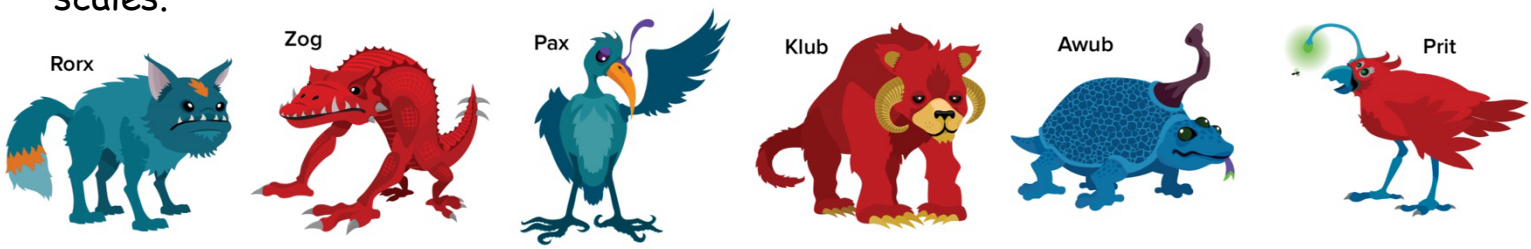
Definition-

Undefined terms-

Defined term-

Theorem-

Activity 1.1.1: ANIMALS In the fictional country of Rythoth, blue animals are from the mountains, and red animals are from the valleys. These animals are categorized into three distinct classes: mammals, birds, and reptiles. Mammals are covered by hair or fur, birds are covered by feathers, and reptiles are covered by scales.



A) Categorize the animals.

Birthplace	Mammal	Bird	Reptile
Mountains			
Valleys			

B) Draw three conclusions.

- The _____ is a mammal from the mountains of Rythoth.
- The _____ is a reptile from the valleys of Rythoth.
- The _____ is a bird from the valleys of Rythoth.

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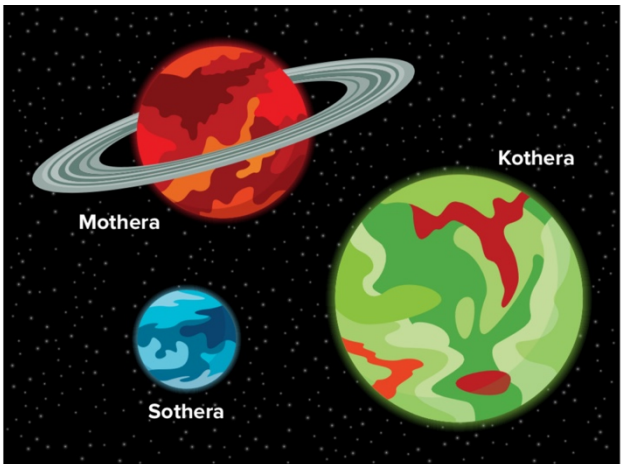
Practice 1.1.2: PLANETS The fictional galaxy of Yogul contains at least 20 planets including Mothera, Sothera, and Kothera. An animal can live on any planet in the Yogul galaxy that contains its biome. Lizards and scorpions live in the desert. Frogs and monkeys live in tropical forests. Bears and foxes can be found in the tundra. The biomes of each planet are permanent and will not change over time.

Use the axioms given to determine what conclusions can be made about the planets of Yogul. Select all that apply.

_____

Color	Biome
	desert
	tropical forest
	tundra



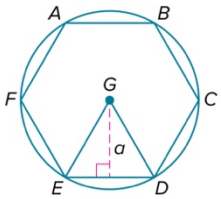
A) Bears and foxes can live on Sothera.
B) Lizards and scorpions can only live on Mothera.
C) Only frogs and monkeys can survive on Kothera.
D) Bears and foxes can survive on Sothera at temperatures as low as $-20°$F.
E) All animals can live on Kothera.
F) Scorpions and Lizards can live on Fothera.

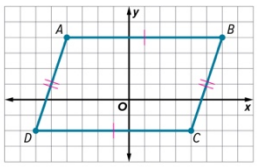
There are many types of geometry. The type of geometry depends on different sets of postulates.

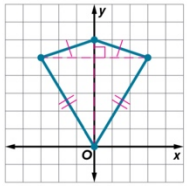
_____ **geometry** is the study of geometric figures _____ the use of _____. It is also known as **pure** or **Euclidean geometry**.

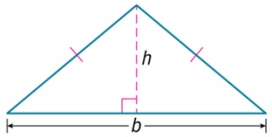
_____ **geometry** is the study of geometry with the use of _____ and/or a _____ _____. This is also known as **coordinate** or **Cartesian geometry**.

Example 1.1.3: Classify each figure as synthetic geometry or analytic geometry.









Practice 1.1.4: Classify each figure as synthetic geometry or analytic geometry.