Chapter 2
Reasoning and Proofs

2.1 - Conditional Statements

2.2 - Inductive and Deductive Reasoning

2.3 - Postulates and Diagrams

2.4 - Algebraic Reasoning

2.5 - Proving Statements about Segments and Angles

2.6 - Proving Geometric Relationships

2.3 - Postulates and Diagrams

Vocabulary

Identify:

- **Undefined terms**
- **Postulates**
- **Theorems**

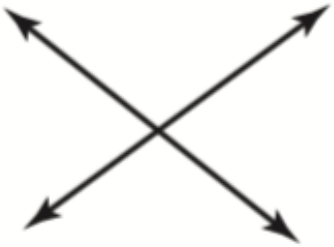
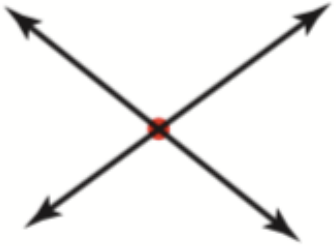
2.3 - Postulates and Diagrams

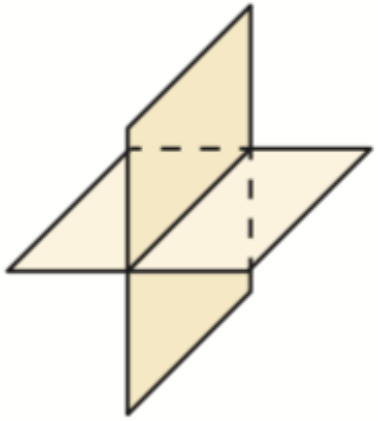
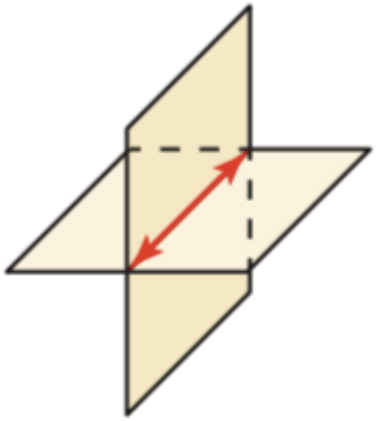
Postulates

1. Through any two points there exists exactly _____.
2. If two lines meet, they intersect at exactly _____.
3. Through any three non-collinear points there exists exactly _____.
4. If two points lie in a plane, then the line containing them _____.
5. If two planes meet, then their intersection is _____.

2.3 - Postulates and Diagrams

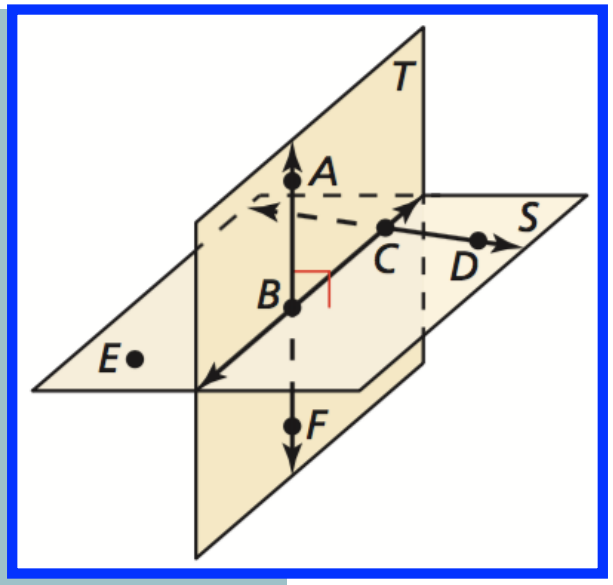
Identify the Postulate

1. If  then 

2. If  then 

2.3 - Postulates and Diagrams

Using the diagram to the right, which of the following <u>cannot</u> be assumed?

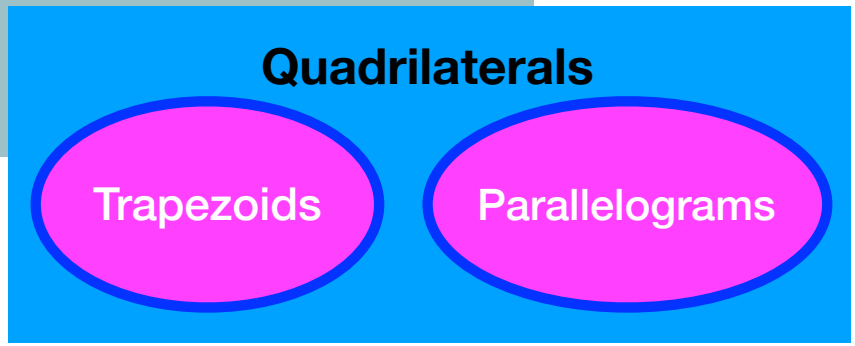


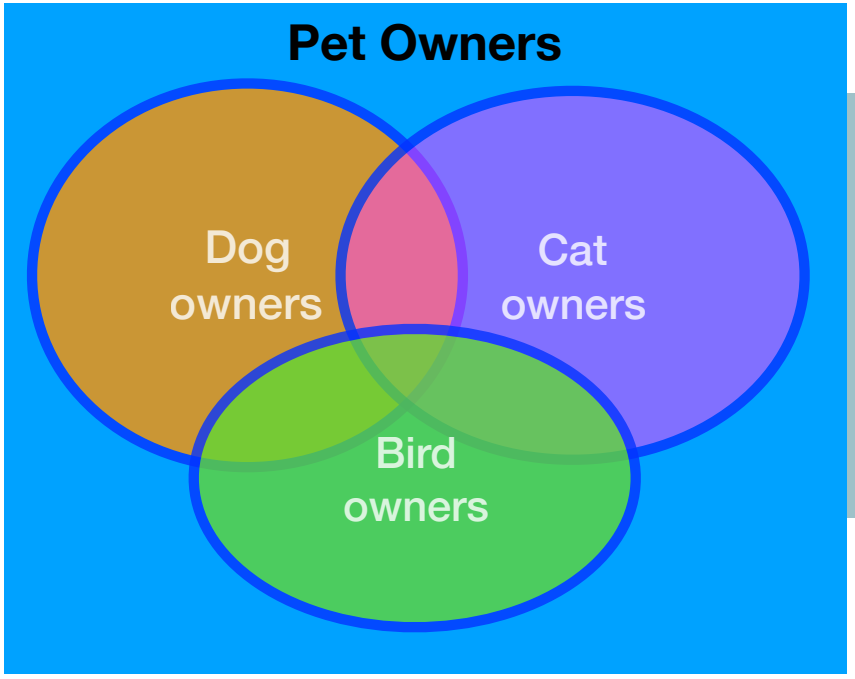
1. Points A, B, and F are collinear.
2. Points E, B, and D are collinear.
3. $\overleftrightarrow{AB} \perp$ *plane S*
4. $\overleftrightarrow{CD} \perp$ *plane T*
5. $\overleftrightarrow{AF}$ intersects $\overleftrightarrow{BC}$ at point B.

2.3 - Postulates and Diagrams

Venn Diagrams

Interpret the meaning of the Venn diagram on the right.





Interpret the meaning of the Venn diagram on the left.