Practice Using Postulates and Diagrams (2.4) - SOL G.1

**Draw a sketch that illustrates the postulate in if-then form.**

1. Postulate 9
   
   If  
   then

2. Postulate 6
   
   If  
   then

**Use the diagram to write an example of the postulate.**

3. Postulate 7

4. Postulate 8

5. Postulate 10

6. Postulate 11

**Sketch a diagram showing the given information.**

7. Line \( m \) bisects \( ST \).

8. \( LN \perp \) plane \( A \) and plane \( A \) bisects \( LN \).

**Can the statement be assumed to be true from the diagram? ** *Explain.*

9. \( AB \) and \( AD \) are opposite rays.

10. \( \angle BAC \) and \( \angle CAD \) are supplementary.

11. \( \angle BAC = \angle BAE \)

12. \( CE \perp \) plane \( S \)

13. \( BD \) lies in plane \( S \) and in plane \( T \).

14. If \( G \) is a point in plane \( S \), then \( CG \) lies in \( S \).

15. \( CE \) bisects \( BD \).

16. Plane \( T \) bisects \( BD \).

17. **Neighborhood Map** A friend e-mailed you the following statements about a neighborhood. Use the statements to complete parts (a)–(e).

   Building B is due south of Building A.
   Buildings A and B are on Street 1.
   Building C is due east of Building B.
   Buildings B and C are on Street 2.
   Building D is southeast of Building B.
   Buildings B and D are on Street 3.
   Building E is due west of Building C.
   \( \angle DBE \) formed by Streets 2 and 3 is acute.

   a. **Draw a diagram of the neighborhood.**
   b. **Where do Streets 1 and 2 intersect?**
   c. **Classify the angle formed by Streets 1 and 2.**
   d. **What street is building E on?**
   e. **Is building E between buildings B and C? Explain.**
Practice (2.4) Using Postulates and Diagrams

Practice and Review for Lessons 2.1 - 2.4

Name: ______________________

1. Sketch the fourth figure in the pattern below.

2. Write the next three numbers in the pattern.
   0, 1, 4, 9, . . .

3. Show the conjecture is false by finding a counterexample.
   If the product of two numbers is positive, then the two numbers must be positive.
   The sum of any two prime numbers is always even.

Write the if-then form, the converse, the inverse, and the contrapositive of the statement “A poet is a writer.”

4. If-then form
5. Converse
6. Inverse
7. Contrapositive
8. Rewrite the definition as a biconditional.
   In an equilateral polygon, all sides are congruent.

What conclusions can you make using the true statement?

9. The company will increase production if the demand for a product increases. Tony will work more hours if the company increases production.

10. The Rock and Roll Hall of Fame is located in Cleveland, Ohio. Ian has never been in Illinois, Indiana, or Ohio.

Label the following planes and points appropriately on the diagram.

11. Label the vertical plane as $A$ and the horizontal plane as $B$.

12. Draw two points $X$ and $Y$ on the diagram so they lie in plane $A$, but not in plane $B$.

13. Draw point $Z$ on the diagram so it lies in both plane $A$ and plane $B$.

14. Plot points $Q$ and $R$ on the diagram so that $\overline{QR}$ is the intersection of plane $A$ and plane $B$. 