

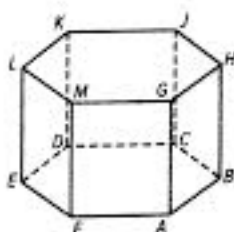
7. **Use a Counterexample** State whether the following conjecture is true or false. If false, provide a counterexample.

*Two planes in three-dimensional space
can intersect at one point.*

False; two planes intersect at a line, which is an infinite number of points.

8. Draw and label a hexagonal prism. Then identify each of the following.
Sample answers are given.

- a. parallel planes \overline{GHJKLM} and \overline{ABCDEF}
 b. skew lines \overline{JH} and \overline{LE}
 c. intersecting planes \overline{GHBA} and \overline{ABCDEF}



Show your work



H.O.T. Problems Higher Order Thinking

9. **Model with Mathematics** Draw the cross sections of a polyhedron, cylinder, or cone. Exchange papers with another student. Identify the three-dimensional figures represented by the cross sections. See students' work.

Show your work

- Persevere with Problems** Determine whether each statement is *always*, *sometimes*, or *never* true. Explain your reasoning.

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| <p>10. A pyramid has parallel faces.
<u>never; A pyramid has all faces, except the base, intersecting at one vertex.</u></p> | <p>11. A prism has 2 bases and 4 faces.
<u>sometimes; A rectangular prism has 2 bases and 4 faces, but a triangular prism has 2 bases and 3 faces.</u></p> |
| <p>12. A parallelogram cannot be a cross section of a triangular prism.
<u>always; The cross section of a triangular prism will be a triangle, rectangle, or trapezoid.</u></p> | <p>13. A pyramid has a rectangular base.
<u>sometimes; A triangular pyramid has a triangle for its base.</u></p> |