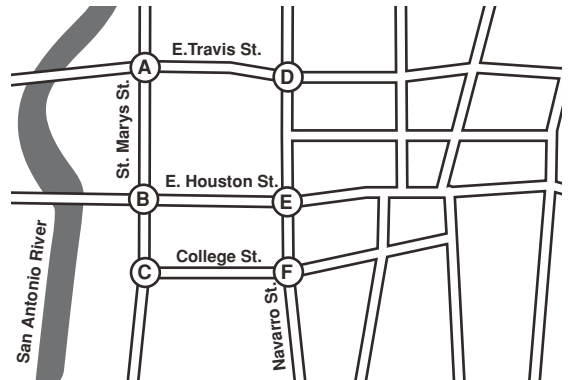


LESSON
1-1 **Problem Solving**
Understanding Points, Lines, and Planes

Use the map of part of San Antonio for Exercises 1 and 2.

1. Name a point that appears to be collinear with \overline{EF} . Which streets intersect at this point?

2. Explain why point A is NOT collinear with \overline{BE} .



3. Suppose \overline{UV} represents the pencil that you are using to do your homework and plane \mathcal{P} represents the paper that you are writing on. Describe the relationship between \overline{UV} and plane \mathcal{P} .

4. Two cyclists start at the same point, but travel along two straight streets in different directions. If they continue, how many times will their paths cross again? Explain.

Choose the best answer.

5. In a building, planes \mathcal{W} , \mathcal{X} , and \mathcal{Y} represent each of the three floors; planes \mathcal{Q} and \mathcal{R} represent the front and back of the building; planes \mathcal{S} and \mathcal{T} represent the sides. Which is a true statement?
- A Planes \mathcal{W} and \mathcal{Y} intersect in a line.
 - B Planes \mathcal{Q} and \mathcal{X} intersect in a line.
 - C Planes \mathcal{W} , \mathcal{X} , and \mathcal{T} intersect in a point.
 - D Planes \mathcal{Q} , \mathcal{R} , and \mathcal{S} intersect in a point.

6. Suppose point G represents a duck flying over a lake, points H and J represent two ducks swimming on the lake, and plane \mathcal{L} represents the lake. Which is a true statement?
- F There are two lines through G and J .
 - G The line containing G and H lies in plane \mathcal{L} .
 - H G , H , and J are noncoplanar.
 - J There is exactly one plane containing points G , H , and J .

Use the figure for Exercise 7.

7. A frame holding two pictures sits on a table. Which is NOT a true statement?
- A \overline{PN} and \overline{NM} lie in plane \mathcal{T} .
 - B \overline{PN} and \overline{NM} intersect in a point.
 - C \overline{LM} and N intersect in a line.
 - D P and \overline{NM} are coplanar.

