3.1 Practice A
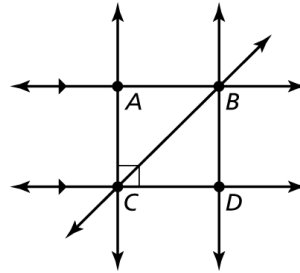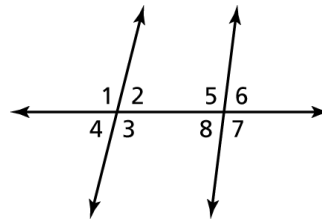
In Exercises 1–4, use the diagram.

1. Name a pair of parallel lines.

2. Name a pair of perpendicular lines.

3. Is $\overleftrightarrow{AB}$ P $\overleftrightarrow{BC}$? Explain.

4. Is $\overleftrightarrow{BD}$ ⊥ $\overleftrightarrow{CD}$? Explain.

In Exercises 5–8, identify all pairs of angles of the given type.

5. alternate interior

6. alternate exterior

7. corresponding

8. consecutive interior

9. Is it possible to draw three lines in two planes such that all three lines are skew? Explain your reasoning.

10. How many pairs of consecutive interior angles do you have when two horizontal lines are intersected by a transversal? How many pairs of consecutive interior angles do you have when three horizontal lines are intersected by a transversal? How many pairs of consecutive interior angles do you have when n horizontal lines are intersected by a transversal?

11. The given markings show how the railroad ties on a railroad track are related to each other.

    a. Name two pairs of parallel lines.

    b. Name two pairs of perpendicular lines.

    c. Name all pairs of consecutive interior angles.

    d. Name all pairs of corresponding angles.

    e. Name all pairs of alternate interior angles.

    f. Name all pairs of alternate exterior angles.
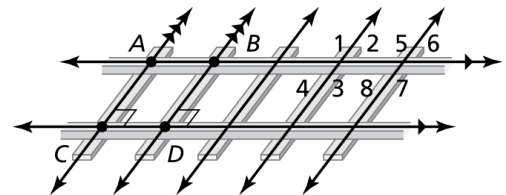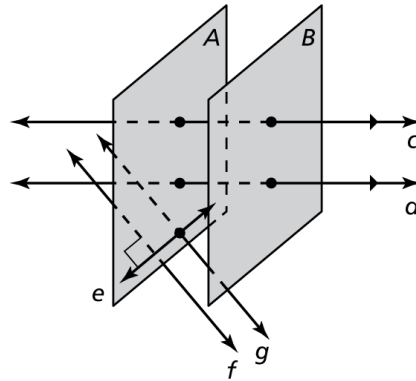
3.1 Practice B

In Exercises 1–6, use the diagram.

1. Name a pair of parallel lines.

2. Name a pair of perpendicular lines.

3. Name a pair of skew lines.

4. Name a pair of parallel planes.

5. Is line *f* parallel to line *g*? Explain.

6. Is line *e* perpendicular to line *g*? Explain.

In Exercises 7–11, classify the angle pair as *corresponding, alternate interior, alternate exterior,* or *consecutive interior* angles.

7. ∠4 and ∠9

8. ∠1 and ∠9

9. ∠1 and ∠12

10. ∠6 and ∠11

11. ∠4 and ∠7
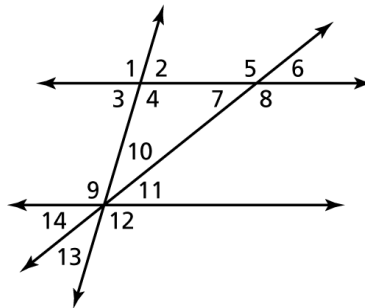
12. Two planes are parallel and each plane contains a line. Are the two lines skew? Explain your reasoning.

13. Use the figure to decide whether the statement is true or false. Explain your reasoning.

   a. The line containing the sidewalk and the line containing the center of the road are parallel to each other.

   b. The line containing the center of the road is skew to the line containing the crosswalk.

   c. The plane containing a stop sign is perpendicular to the plane containing the ground.