

Written Exercises

Exercises 1–4 deal with figures in a plane. Draw a diagram showing the locus. Then write a description of the locus.

- A**
1. Given two points A and B , what is the locus of points equidistant from A and B ?
 2. Given a point P , what is the locus of points 2 cm from P ?
 3. Given a line h , what is the locus of points 2 cm from h ?
 4. Given $\odot O$, what is the locus of the midpoints of all radii of $\odot O$?

In Exercises 5–8 begin each exercise with a square $ABCD$ that has sides 4 cm long. Draw a diagram showing the locus of points on or inside the square that satisfy the given conditions. Then write a description of the locus.

5. Equidistant from \overline{AB} and \overline{CD}
6. Equidistant from points B and D
7. Equidistant from \overline{AB} and \overline{BC}
8. Equidistant from all four sides

Exercises 9–12 deal with figures in space.

9. Given two parallel planes, what is the locus of points equidistant from the two planes?
10. Given a plane, what is the locus of points 5 cm from the plane?
11. Given point E , what is the locus of points 3 cm from E ?
12. Given points C and D , what is the locus of points equidistant from C and D ?

Exercises 13–17 deal with figures in a plane. (Note: If a point in a segment or in an arc is not included in the locus, indicate the point by an open dot.)

- B**
13. a. Draw an angle HEX . Construct the locus of points equidistant from the sides of $\angle HEX$.
b. Draw two intersecting lines j and k . Construct the locus of points equidistant from j and k .
 14. Draw a segment \overline{DE} and a line n . Construct the locus of points whose distance from n is DE .
 15. Draw a segment \overline{AB} . Construct the locus of points P such that $\angle APB$ is a right angle.
 16. Draw a segment \overline{CD} . Construct the locus of points Q such that $\triangle CQD$ is isosceles with base \overline{CD} .
 17. Draw a segment \overline{EF} . Construct the locus of points G such that $\triangle EFG$ is isosceles with leg \overline{EF} .