ANSWERS

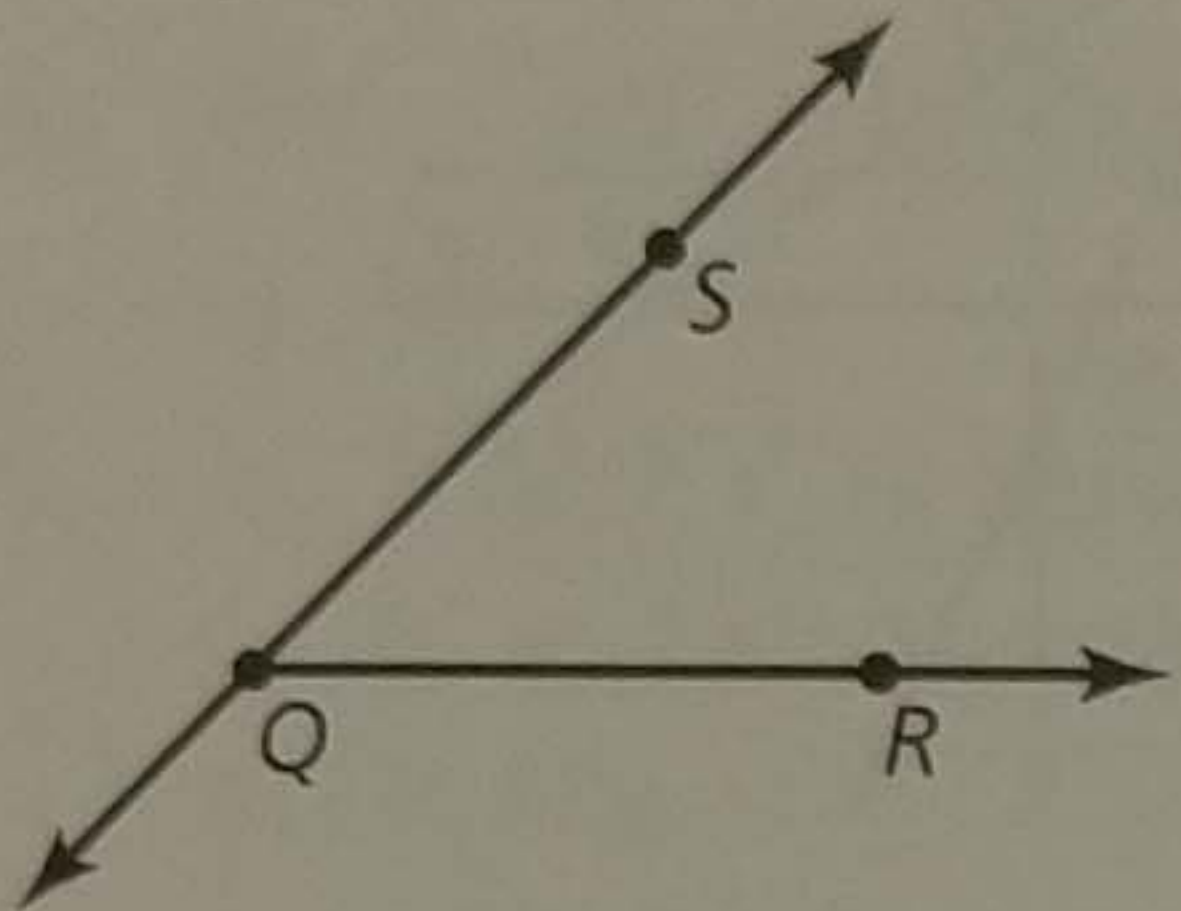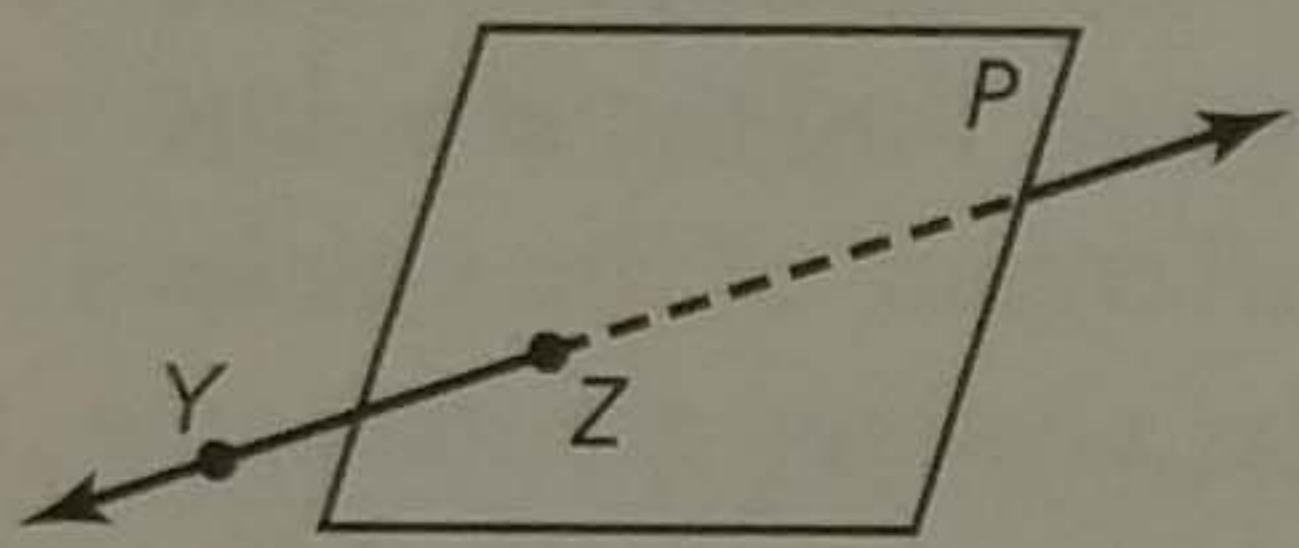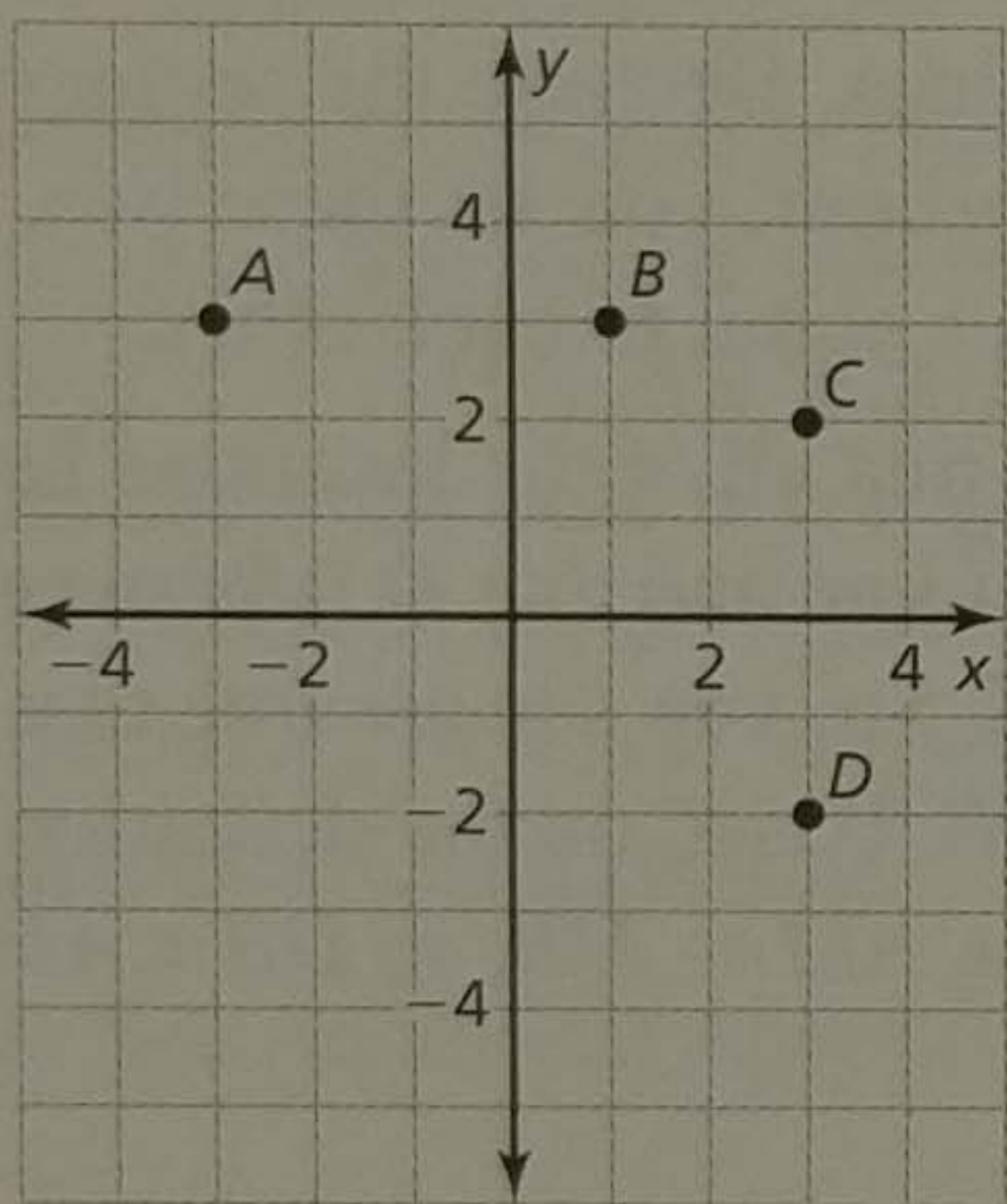1. Sample answer: A, C, F, K
2. Sample answer: F, G, H
3. Sample answer: $\overleftrightarrow{FG}$, $\overleftrightarrow{AB}$
4. Sample answer: C, E, K
5. Sample answer: plane AFH
6. Sample answer: plane ADK, plane CEK
7. Sample answer: $\overline{CD}$, $\overline{AB}$, $\overline{GF}$
8. Sample answer: $\overrightarrow{CD}$, $\overrightarrow{LA}$, $\overrightarrow{FH}$
9. Sample answer:

10. Sample answer:

11.

yes

12.

no

13. 39
14. 51
15. (3, 0), about 6.3
16. $\left(\frac{1}{2}, 1\right)$, about 12
17. $\left(-\frac{5}{2}, \frac{1}{2}\right)$, about 7.6
18. M; 32
19. (6, −1)

20. a. post office
    b. 416 yd
    c. 1305 yd
    d. 17.4 min;

$$\frac{1305 \text{ yd}}{1} \cdot \frac{1 \text{ min}}{75 \text{ yd}} = \frac{1305 \text{ min}}{75} = 17.4 \text{ min}$$

21. about 127 ft; about 64 ft;

$$\sqrt{(90-0)^2 + (90-0)^2} = \sqrt{16,200} \approx 127,$$

$$\frac{127}{2} \approx 64$$
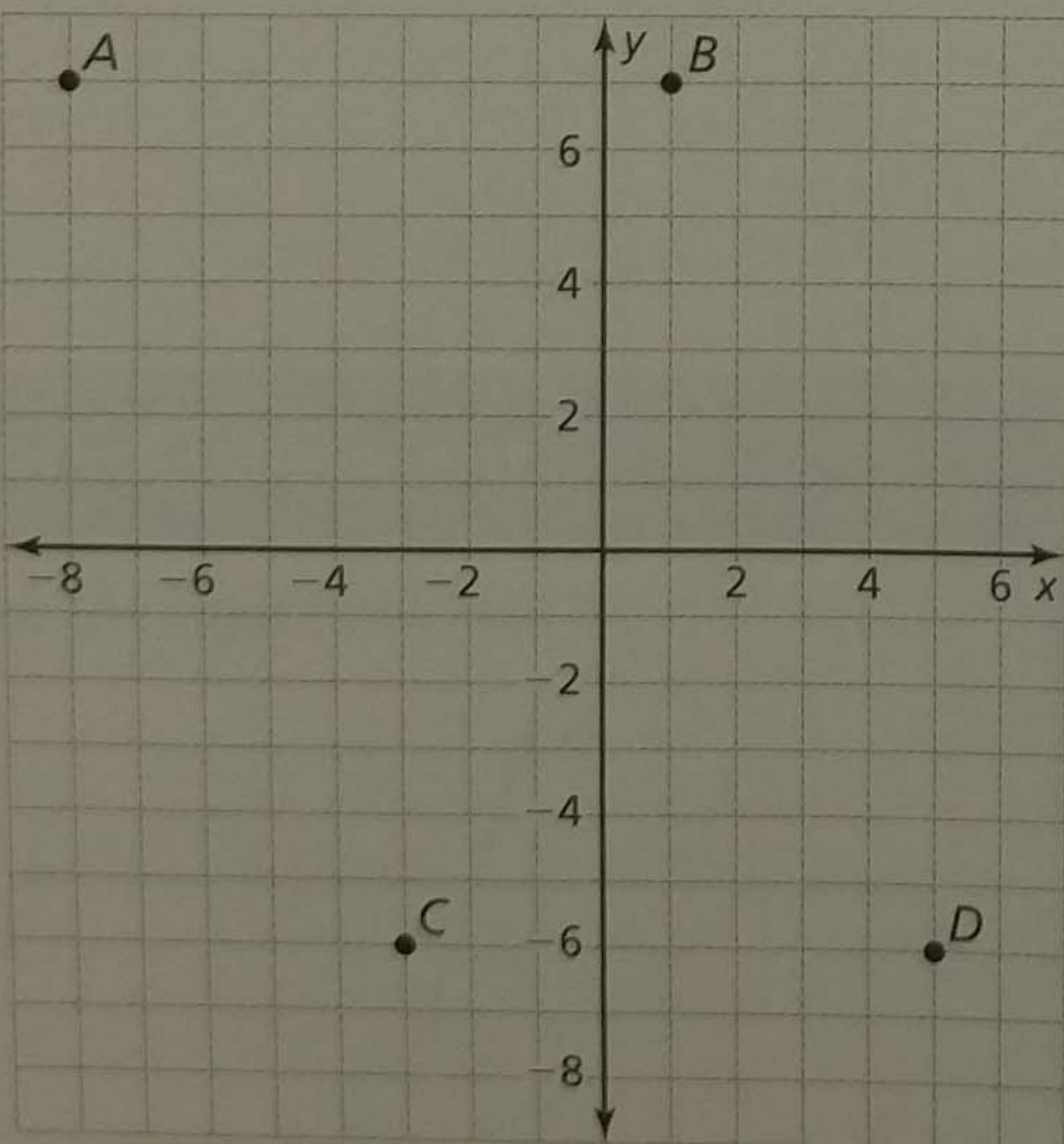
Use the diagram. *(Section 1.1)*

1. Name four points.
2. Name three collinear points.
3. Name two lines.
4. Name three coplanar points.
5. Name the plane that is shaded green.
6. Give two names for the plane that is shaded blue.
7. Name three line segments.
8. Name three rays.
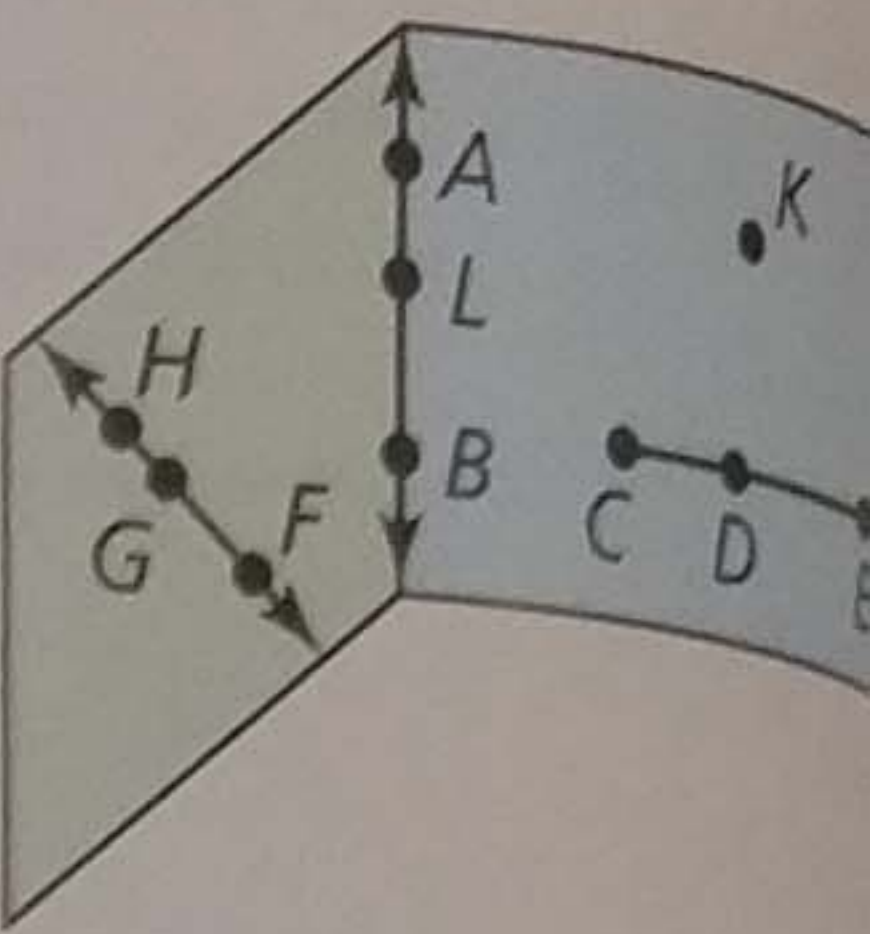
Sketch the figure described. *(Section 1.1)*

9. $\overrightarrow{QR}$ and $\overrightarrow{QS}$

10. plane P intersecting $\overleftrightarrow{YZ}$ at Z

Plot the points in a coordinate plane. Then determine whether $\overline{AB}$ and $\overline{CD}$ are congruent. *(Section 1.2)*
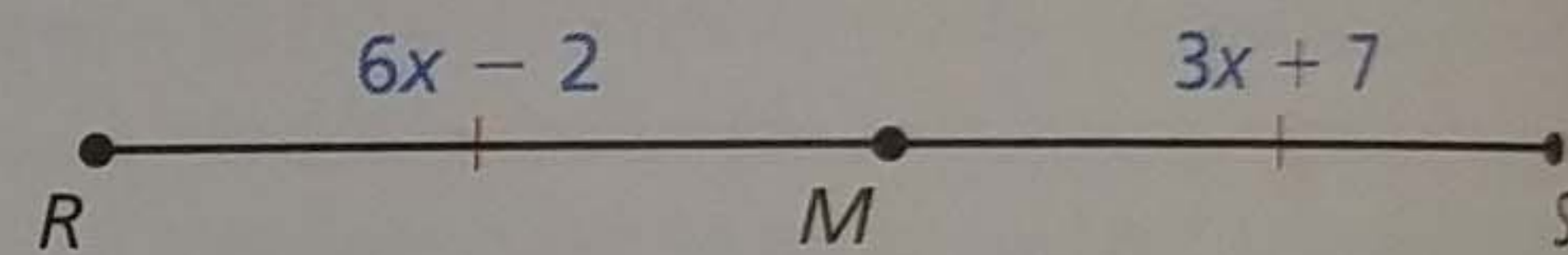
11. A(−3, 3), B(1, 3), C(3, 2), D(3, −2)

12. A(−8, 7), B(1, 7), C(−3, −6), D(5, −6)

Find AC. *(Section 1.2)*

13.

14.
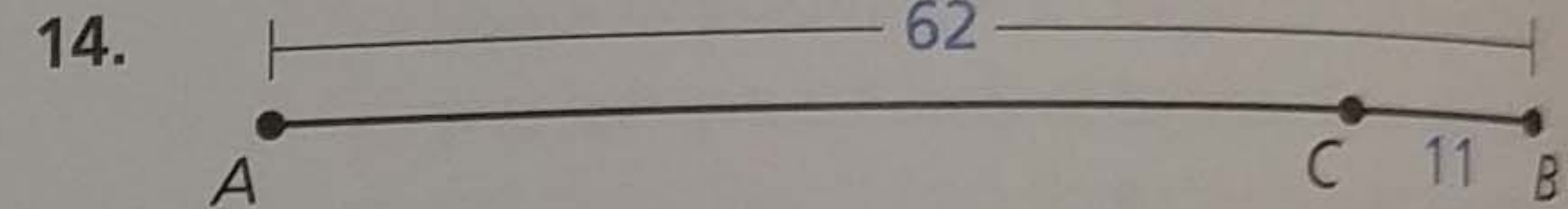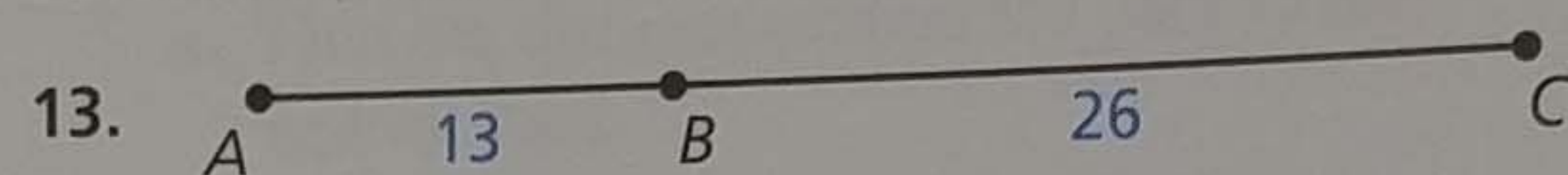
Find the coordinates of the midpoint M and the distance between the two points. *(Section 1.3)*

15. J(4, 3) and K(2, −3)
16. L(−4, 5) and N(5, −3)
17. P(−6, −1) and Q(1, 2)

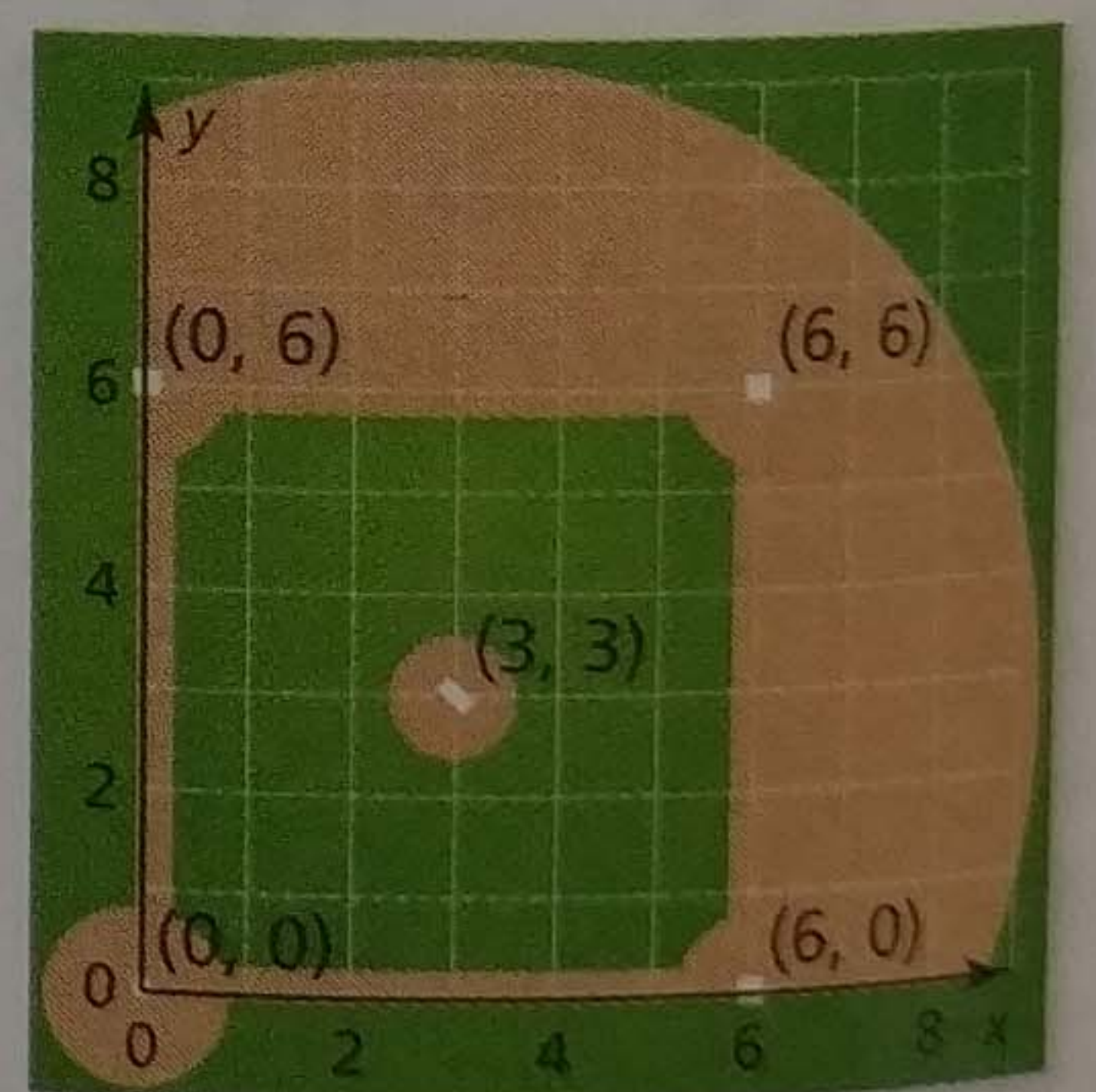18. Identify the segment bisector of $\overline{RS}$. Then find RS. *(Section 1.3)*

19. The midpoint of $\overline{JK}$ is M(0, 1). One endpoint is J(−6, 3). Find the coordinates of endpoint K. *(Section 1.3)*

20. Your mom asks you to run some errands on your way home from school. She wants you to stop at the post office and the grocery store, which are both on the same straight road between your school and your house. The distance from your school to the post office is 376 yards, the distance from the post office to your house is 929 yards, and the distance from the grocery store to your house is 513 yards. *(Section 1.2)*

    a. Where should you stop first?
    b. What is the distance from the post office to the grocery store?
    c. What is the distance from your school to your house?
    d. You walk at a speed of 75 yards per minute. How long does it take you to walk straight home from school? Explain your answer.

21. The figure shows a coordinate plane on a baseball field. The distance from home plate to first base is 90 feet. The pitching mound is the midpoint between home plate and second base. Find the distance from home plate to second base. Find the distance between home plate and the pitching mound. Explain how you found your answers. *(Section 1.3)*