

Answers for Lesson 1-4, pp. 25–27 Exercises

1. $\overline{RS}, \overline{RT}, \overline{RW}, \overline{ST}, \overline{SW}, \overline{TW}$ 2. $\overrightarrow{RS}, \overrightarrow{ST}, \overrightarrow{TW}, \overrightarrow{WT}, \overrightarrow{TS}, \overrightarrow{SR}$

3. a. \overrightarrow{TS} or $\overrightarrow{TR}, \overrightarrow{TW}$

b. $\overrightarrow{SR}, \overrightarrow{ST}$

4. \overline{DF}

5. \overline{BC}

6. $\overline{BE}, \overline{CF}$

7. $\overline{DE}, \overline{EF}, \overline{BE}$

8. $\overline{AD}, \overline{AB}, \overline{AC}$

9. $\overline{BC}, \overline{EF}$

10–11. Answers may vary. Samples:

10. $ABC \parallel DEF$

11. $DEF, \overleftrightarrow{BC}$

12. \overleftrightarrow{FG}

13. Answers may vary. Sample: $\overleftrightarrow{CD}, \overleftrightarrow{AB}$

14. $\overleftrightarrow{BG}, \overleftrightarrow{DH}, \overleftrightarrow{CL}$

15. \overleftrightarrow{AF}

16. true

17. False; they are skew.

18. true

19. False; they intersect above \overline{CG} .

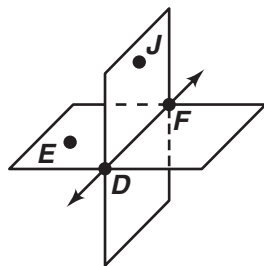
20. true

21. False; they intersect above pt. A.

22. False; they are \parallel .

23. False; they are \parallel .

24.



25. always

26. never

27. always

28. always

29. never

30. sometimes

31. always

32. sometimes

33. sometimes

34. C

35. Answers may vary. Sample: (0, 0); check students' graphs.

Answers for Lesson 1-4, pp. 25–27 Exercises (cont.)

36. a. Answers may vary. Sample: northeast and southwest
 b. Answers may vary. Sample: northwest and southeast, east and west
37. Two lines can be parallel, skew, or intersecting in one point. Sample: train tracks—parallel; vapor trail of a northbound jet and an eastbound jet at different altitudes—skew; streets that cross—intersecting
38. Answers may vary. Sample: Skew lines cannot be contained in one plane. Therefore, they have “escaped” a plane.
39. a. The lines of intersection are parallel.
 b. Examples may vary. Sample: The floor and ceiling are parallel. A wall intersects both. The lines of intersection are parallel.

40. a.



one segment; \overline{EF}

b.



3 segments; \overline{EF} , \overline{EG} , \overline{FG}

c.

Number of points	Number of segments
2	1
3	3
4	6
5	10
6	15

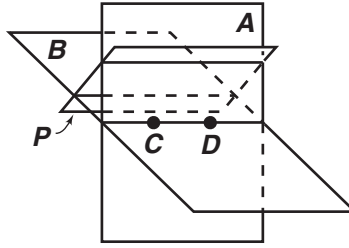
Answers may vary. Sample: For each “new” point, the number of new segments equals the number of “old” points.

d. 45 segments e. $\frac{n(n-1)}{2}$

41. No; two different planes cannot intersect in more than one line.

Answers for Lesson 1-4, pp. 25–27 Exercises (cont.)

42. yes; plane P , for example



43. Answers may vary. Sample: \overleftrightarrow{VR} , \overleftrightarrow{QR} , \overleftrightarrow{SR}

44. \overleftrightarrow{QR}

45. Yes; no; yes; explanations may vary.