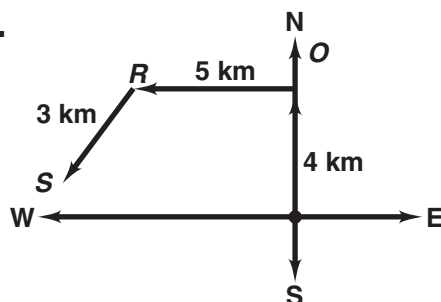


Answers for Lesson 9-1, pp. 473–476 Exercises

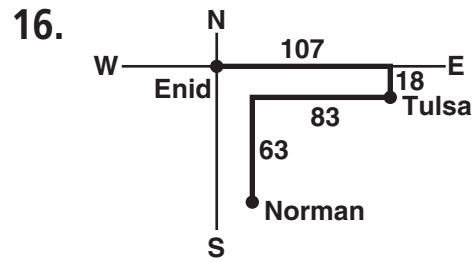
1. Yes; the trans. is a slide.
2. Yes; the trans. is a flip.
3. No; the figures are not \cong .
4. a. Answers may vary. Sample: $\angle Q \rightarrow \angle Q'$
 b. \overline{QR} and $\overline{Q'R'}$; \overline{RS} and $\overline{R'S'}$; \overline{SP} and $\overline{S'P'}$; \overline{QP} and $\overline{Q'P'}$
5. a. Answers may vary. Sample: $\angle R \rightarrow \angle R'$
 b. \overline{RI} and $\overline{R'I'}$; \overline{IT} and $\overline{I'T'}$; \overline{RT} and $\overline{R'T'}$
6. a. Answers may vary. Sample: $G \rightarrow M$
 b. \overline{GW} and \overline{MR} ; \overline{WP} and \overline{RT} ; \overline{PN} and \overline{TX} ; \overline{NB} and \overline{XS} ;
 \overline{BG} and \overline{SM}
7. $(-6, 5), (-3, 1), (2, 4)$
8. $(1, -2), (4, 1), (10, -2), (7, -5)$
9. $(-7, 5), (-7, 8), (-4, 8), (-1, 2)$
10. $(-4, -0.5), (-2, -3), (-1, 4), (5, 0)$
11. $(x, y) \rightarrow (x + 1, y - 3)$
12. $(x, y) \rightarrow (x + 1, y - 1)$
13. $(x, y) \rightarrow (x - 5, y - 2)$
14. $(x, y) \rightarrow (x + 4, y - 2)$

15. a.



b. about 7.1 km west,
1.9 km north

Answers for Lesson 9-1, pp. 473–476 Exercises (cont.)

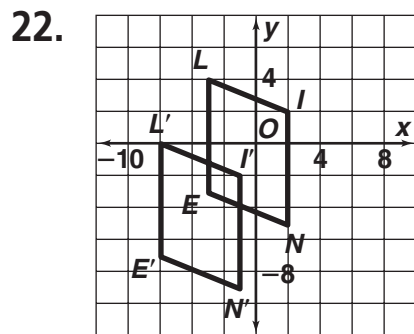
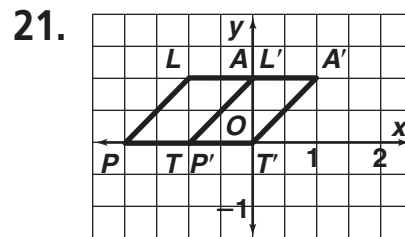
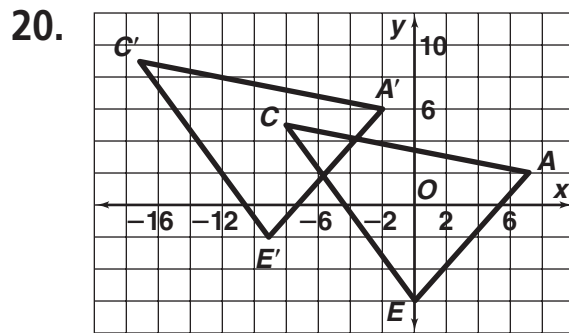


Norman is 24 mi east and 81 mi south of Enid.

17. $(x, y) \rightarrow (x + 2, y + 2)$

18. $(x, y) \rightarrow (x - 3, y + 1)$

19. D



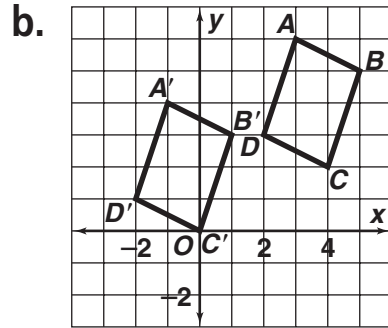
23. a. At least 5 ft east, 10 ft north

b. Sample: $(x, y) \rightarrow (x + 5, y + 10)$

24. Check students' work.

25. $U'(1, 16), G'(2, 12)$

26. a. $\langle -4, -2 \rangle$



27. No; $\triangle HYP \rightarrow \triangle Y'H'P'$ is the translation

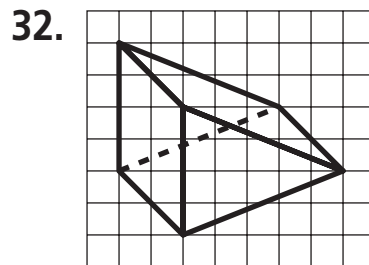
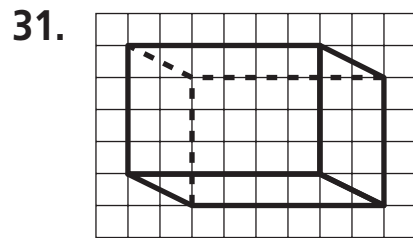
28. $(x, y) \rightarrow (x - 2, y + 14)$

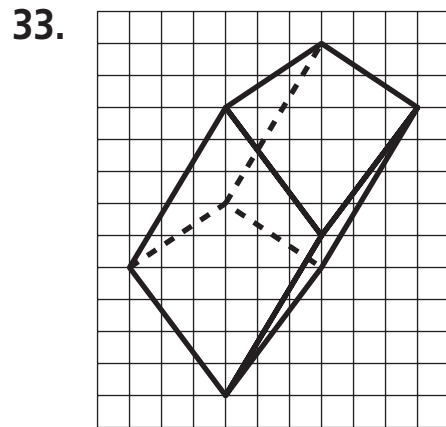
29. $(x, y) \rightarrow (x + 13, y - 2.5)$

30. a. A slant involves one translation straight downfield and then another diagonally towards the middle of the field; the composition is one translation.

b. The ball drops straight back with the QB and is then thrown to the receiver downfield; the composition is one translation.

c. a completion





34. Check students' work.

35. a. $A'(2, 7), B'(0, 1), C'(6, -1)$

b. midpoint of $\overline{AB} = (-3, 2)$; midpoint of $\overline{BC} = (-1, -2)$;
 midpoint of $\overline{AC} = (0, 1)$; midpoint of $\overline{A'B'} = (1, 4)$;
 midpoint of $\overline{B'C'} = (3, 0)$; midpoint of $\overline{A'C'} = (4, 3)$;
 image of $(-3, 2) = (1, 4) = \text{midpoint of } \overline{A'B'}$;
 image of $(-1, -2) = (3, 0) = \text{midpoint } \overline{B'C'}$;
 image of $(0, 1) = (4, 3) = \text{midpoint of } \overline{A'C'}$

36. Translate a line segment in a direction different than along the segment. Then connect the endpoints of the line segment and its image to form a \square .