

Corresponding ACE Answers

Applications

8. $(-2, 3)$ and $(1, 5)$; $(5, -1)$ and $(2, -3)$. There is a third possibility with noninteger coordinates $(2.5, -0.5)$ and $(0.5, 2.5)$, but students do not need to find this one.
9. There are infinitely many possible pairs, including $(2, 0)$ and $(5, 2)$; $(0, 2)$ and $(3, 4)$; $(0, -2)$ and $(3, 0)$; and $(2, -1)$ and $(5, 1)$.
10. There are infinitely many possible vertices, including $(0, 2)$, $(3, 0)$, $(4, -6)$, and $(5, -1)$. Any one of the vertices in Exercise 8 will work.

Connections

35. a. She probably found the slopes of all four sides. The slopes of any two adjacent sides are opposite reciprocals of each other, so they are perpendicular line segments (in other words, all four angles were 90°).
- b. She probably found the slopes of all four sides. Because the slopes of opposite sides were the same, they were parallel. Therefore, if opposite sides of the quadrilateral were parallel, her figure was a parallelogram.
36. a. Lines 1, 5, and 8; lines 3 and 6
- b. Lines 6 and 2; lines 3 and 2; lines 8 and 4; lines 1 and 4; lines 5 and 4

Extensions

41. Possible answer: For each parallelogram, all four sides are the same length. A rhombus is the only parallelogram with perpendicular diagonals. Possible answer: Squares—rhombuses with right angles—have perpendicular diagonals.