**7-140.** Each problem below gives the endpoints of a segment. Find the coordinates of the midpoint of the segment. If you need help, consult the Math Notes box for this lesson. Homework Help ✎

a. (5, 2) and (11, 14)

b. (3, 8) and (10, 4)

7-144. The angle created by a hinged mirror when forming a regular polygon is called a **central angle**. For example, ∠ABC in the diagram below is the central angle of the regular hexagon. Homework Help ✎
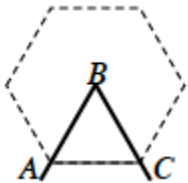
a. If the central angle of a regular polygon measures 18°, how many sides does the polygon have?

b. Can a central angle measure 90°? 180°? 13°? For each angle measure, explain how you know.

7-145. Jamika designed a game that allows some people to win money and others to lose money, but overall Jamika will neither win nor lose money. Each player will spin the spinner below and will win the amount of money shown in the result. How much should each player pay to spin the spinner? Explain your reasoning. <u>Homework Help</u> ✎
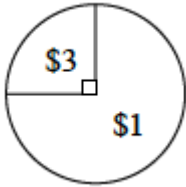
7-146. Suppose *ADBC* is a quadrilateral and the diagonal $\overline{AB}$ lies on $y = -\frac{4}{3}x + 5$ and diagonal $\overline{CD}$ lies on $y = \frac{3}{4}x - 1$. Assume the diagonals intersect at point *E*. <u>Homework Help</u> ✎

a. Without graphing, what is the relationship between the diagonals? How do you know?

b. Graph the lines on graph paper. If *E* is a midpoint of $\overline{CD}$, what type of quadrilateral could *ADBC* be? Is there more than one possible type? Explain how you know.