Assignment

Write

Define each term in your own words. Use the words *diagonal, interior angle*, and *midsegment* in your definitions.

1. kite
2. isosceles trapezoid
3. cyclic quadrilateral

Remember

The diagonals of a parallelogram bisect each other and the diagonals of a rectangle are congruent. A square, rhombus, and kite have perpendicular diagonals.

The opposite angles of parallelograms are congruent and the opposite angles of cyclic quadrilaterals are supplementary.

Practice

1. Determine which quadrilateral each letter in the diagram represents using the list shown.

   Kites   Squares

   Rectangles   Parallelograms

   Rhombi   Isosceles Trapezoids

2. State as many properties as you can about each quadrilateral.

   a. Rectangle   b. Isosceles trapezoid

   c. Kite   d. Parallelogram

   e. Rhombus   f. Square

3. Describe how to construct each quadrilateral using the given diagonal.

   a. Square *WXYZ* given diagonal *WY*

   b. Parallelogram *RSTU* that is non-rectangular given diagonal *RT*
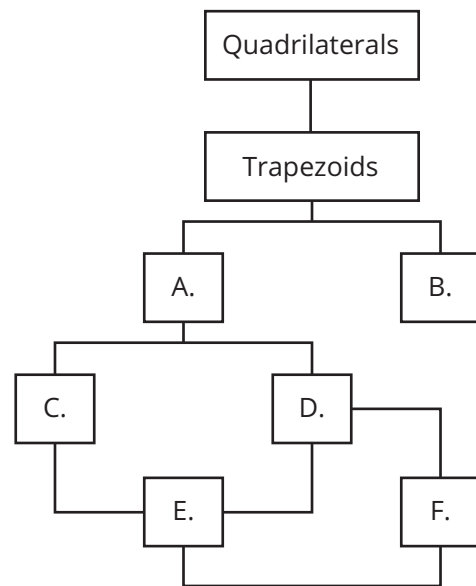
Stretch

Create a Zukei puzzle for an isosceles trapezoid in which the bases do not lie on the grid lines. Use a minimum of 10 dots. Make sure that your puzzle has only one correct answer.
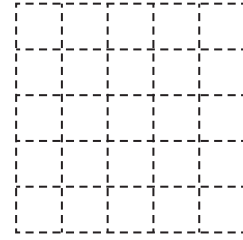
Review

1. Write a conjecture about alternate interior angles. Draw an example to test your conjecture.
2. Draw examples of inscribed angles that intercept the same arc of a circle. What conjecture can you make about the measures of the inscribed angles?

3. Jay walks 3 blocks north and then 4 blocks east to get to the store. If he walks straight back home, how far does Jay walk in all?
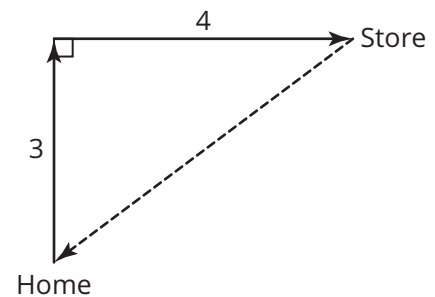
4. TV screen sizes are given by their diagonal measure from a top corner to the opposite bottom corner. What is the approximate size of this TV to the nearest inch?

29.4 in.

52.3 in.
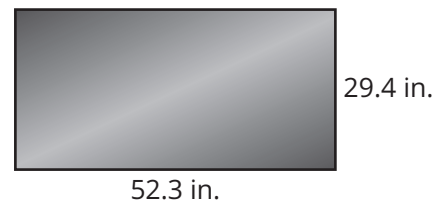
5. Use the coordinate plane to approximate each distance. Write each answer as a decimal to the nearest hundredth.
   a. The distance between point *A* and point *C*
   b. The distance between point *D* and point *B*