

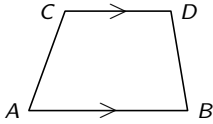
# Trapezoids and Kites

## Today I Can

1. Verify and use properties of trapezoids and kites.

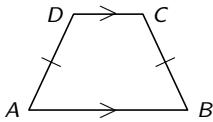
### Trapezoid

A quadrilateral with only one pair of parallel sides

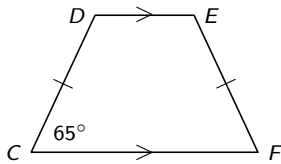


### Isosceles Trapezoid

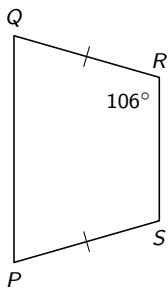
A trapezoid with congruent non-parallel sides (called *legs*).



**Example 1.**  $CDEF$  is an isosceles trapezoid. What are the measures of the other angles?



**Example 2.** In the diagram  $PQRS$  is an isosceles trapezoid. What are the measures of the other angles?

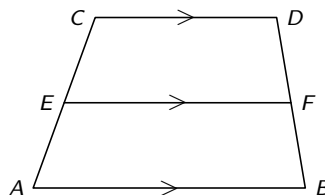


**Example 3.** In Example 1, if  $CDEF$  were not an isosceles trapezoid, would  $\angle C$  and  $\angle D$  still be supplementary? Explain.

### Midsegment of a Trapezoid

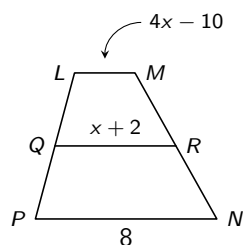
A segment that joins the midpoints of the legs.

- $\overline{AB} \parallel \overline{EF} \parallel \overline{CD}$
- $EF = \frac{1}{2}(AB + CD)$

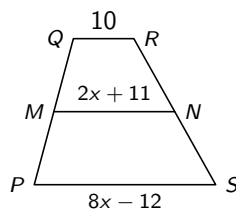


**Example 4.** Find the value of  $x$  and the length of the midsegment in each.

(a)

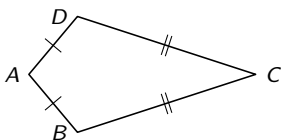


(b)



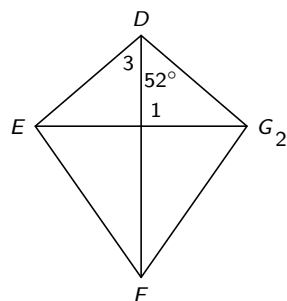
### Kite

A quadrilateral with 2 pairs of consecutive sides congruent and no opposite sides congruent.



**Example 5.** Find the measures of the numbered angles in each kite.

(a)



(b)

