

# Geometry

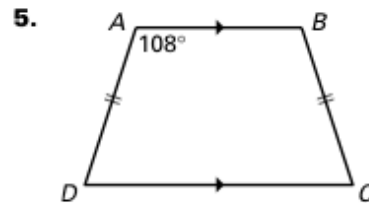
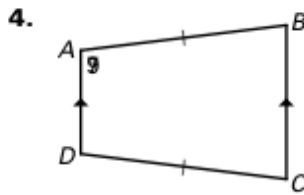
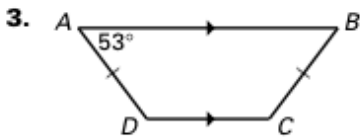
## Worksheet 8.5

Name \_\_\_\_\_

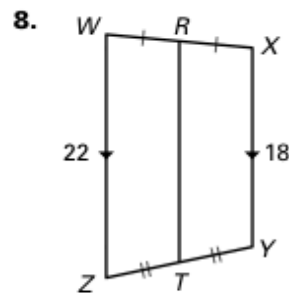
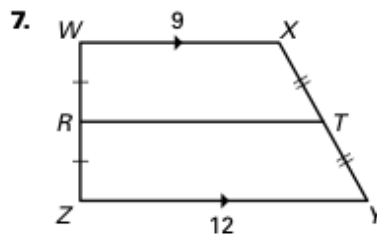
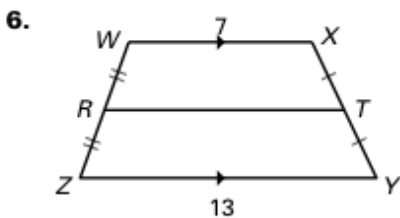
Points  $J$ ,  $K$ ,  $L$ , and  $M$  are the vertices of a quadrilateral. Determine whether  $JKLM$  is a trapezoid.

- $J(-1, -1)$ ,  $K(0, 3)$ ,  $L(3, 3)$ ,  $M(4, -1)$
- $J(-4, -2)$ ,  $K(-4, 3)$ ,  $L(2, 3)$ ,  $M(3, -5)$

Find  $m\angle B$ ,  $m\angle C$ , and  $m\angle D$ .



Find the length of the midsegment  $\overline{RT}$ .

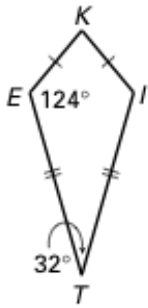


Tell whether the statement is *always*, *sometimes*, or *never* true.

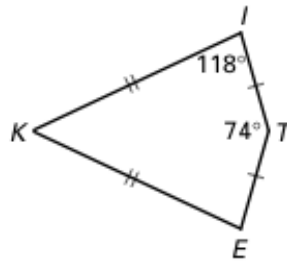
- A trapezoid is a parallelogram.
- The bases of a trapezoid are parallel.
- The base angles of an isosceles trapezoid are congruent.
- The legs of a trapezoid are congruent.

**KITE is a kite. Find  $m\angle K$ .**

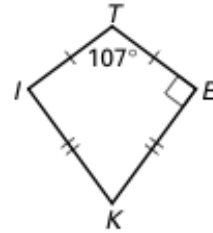
13.



14.

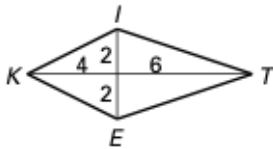


15.

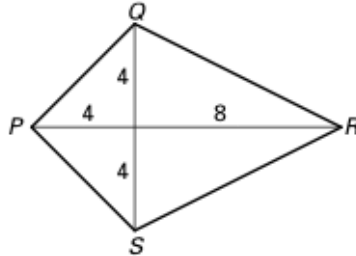


**Use Theorem 18 and the Pythagorean Theorem to find the side lengths of the kite. Write the lengths in simplest radical form.**

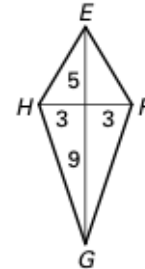
16.



17.

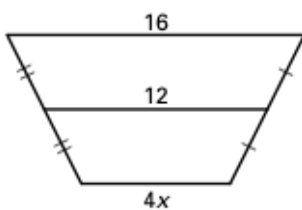


18.

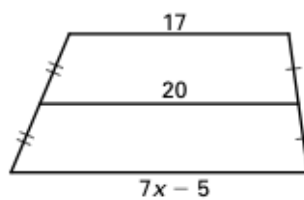


**Find the value of  $x$ .**

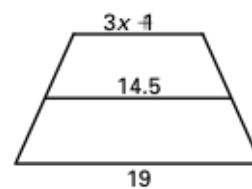
19.



20.



21.



22. **Vaulting Box** Three vaulting boxes used by a gymnastics team are stacked on top of each other as shown. The sides are in the shape of a trapezoid. Find the lengths of  $a$  and  $b$ .

