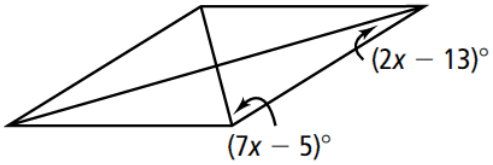
Name: _____

10.2 & 10.3 · Rhombi & Kites

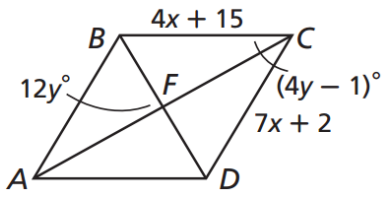
Past due on: _____ Period: _____

RHOMBI

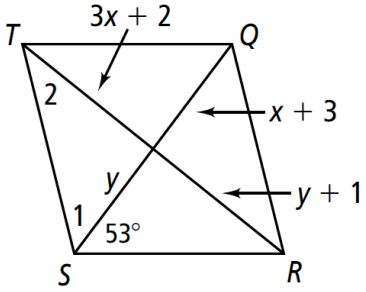
1. Find the value of x of the rhombus shown.



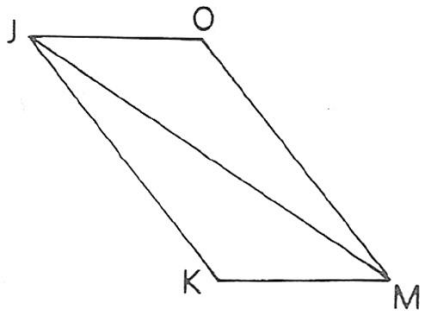
2. *ABCD* is a rhombus.
   a. Solve for *x.*
   b. Solve for *y.*
   c. Find $m\angle ABC$?



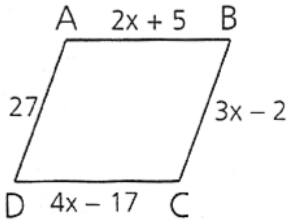
3. *QRST* is a rhombus.
   a. Find $m\angle 1$ & $m\angle 2$.
   b. Set up & solve a system of equations to find the values of x & y.
   c. Find *RT* & *QS*.
   d. What is the area of *QRST*?



4. *JKMO* is a ▱
   $\overleftrightarrow{JM}$ bisects $\angle OJK$ & $\angle OMK$
   $OJ = x + 5$
   $KM = y - 3$
   $JK = 2x - 4$
   a. Explain why *JKMO* is a rhombus.
   b. Solve for *x*.
   c. Solve for *y*.
   d. Find the perimeter of *JKMO.*

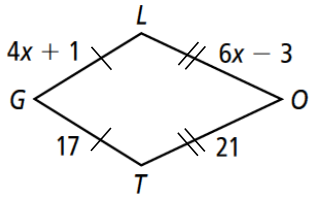


5. If $\overline{AB} \cong \overline{DC}$, show that *ABCD* is NOT a rhombus.

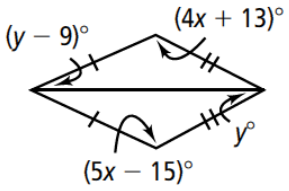


KITES

6. Find *x*.

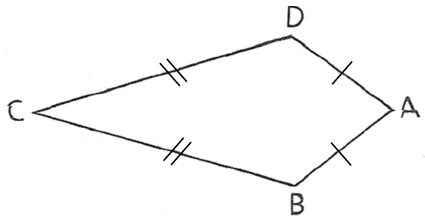


7. Find *x* & *y*.

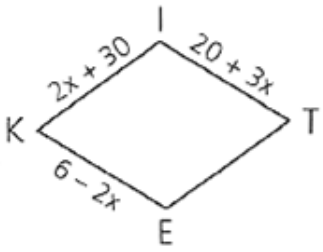


8. Given: *ABCD* is a kite.
$AB = x + 3$
$BC = x + 4$
$CD = 2x - 1$
$AD = 3x - y$

Find: a. *x* & *y*
b. Perimeter of *ABCD*



9. An author wrote a problem involving kite *KITE* but forgot to say which pairs of sides were congruent. Work the problem twice to see which pairs of sides are congruent.



10. Alice created a kite out of two sticks and some fabric. The sticks were 10 inches and 15 inches long. She tied the sticks together so they were perpendicular and attached the fabric. What is the area of the kite Alice created?

11. Joanne constructed a kite with a perimeter of 38 centimeters so that the sum of the two shorter sides if 10 centimeters. What are the lengths of each of the two longer sides?