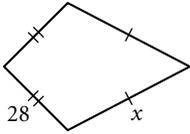


Lesson 5.3 • Kite and Trapezoid Properties

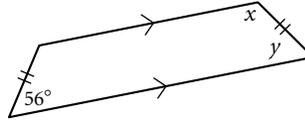
Name _____ Period _____ Date _____

In Exercises 1–4, find each lettered measure.

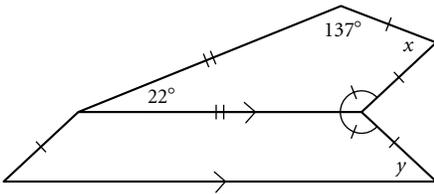
1. Perimeter = 116. $x =$ _____



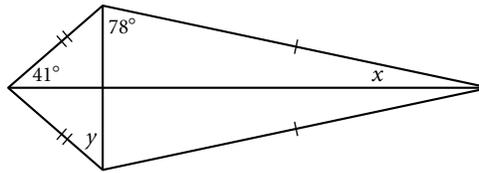
2. $x =$ _____, $y =$ _____



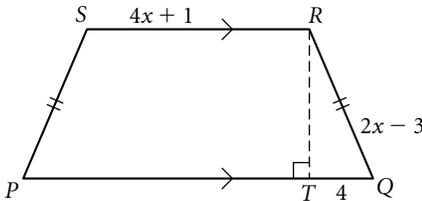
3. $x =$ _____, $y =$ _____



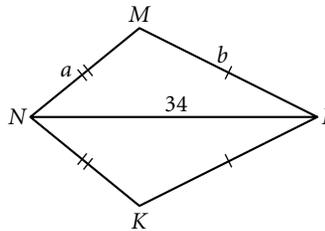
4. $x =$ _____, $y =$ _____



5. Perimeter $PQRS = 220$. $PS =$ _____

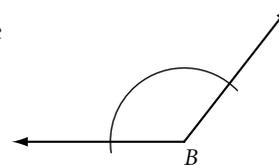
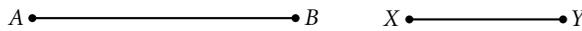


6. $b = 2a + 1$. $a =$ _____

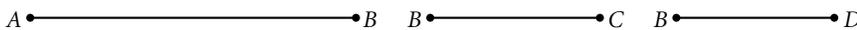


In Exercises 7 and 8, use the properties of kites and trapezoids to construct each figure. Use patty paper or a compass and a straightedge.

7. Construct an isosceles trapezoid given base \overline{AB} , $\angle B$, and distance between bases XY .



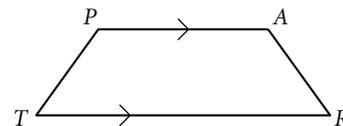
8. Construct kite $ABCD$ with \overline{AB} , \overline{BC} , and \overline{BD} .



9. Write a paragraph or flowchart proof of the Converse of the Isosceles Trapezoid Conjecture. *Hint:* Draw \overline{AE} parallel to \overline{TP} with E on \overline{TR} .

Given: Trapezoid $TRAP$ with $\angle T \cong \angle R$

Show: $\overline{TP} \cong \overline{RA}$

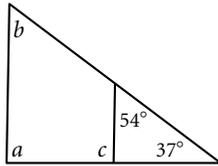


Lesson 5.4 • Properties of Midsegments

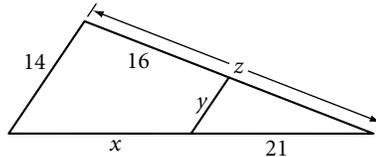
Name _____ Period _____ Date _____

In Exercises 1–3, each figure shows a midsegment.

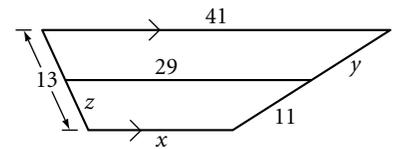
1. $a = \underline{\hspace{2cm}}$, $b = \underline{\hspace{2cm}}$,
 $c = \underline{\hspace{2cm}}$



2. $x = \underline{\hspace{2cm}}$, $y = \underline{\hspace{2cm}}$,
 $z = \underline{\hspace{2cm}}$



3. $x = \underline{\hspace{2cm}}$, $y = \underline{\hspace{2cm}}$,
 $z = \underline{\hspace{2cm}}$

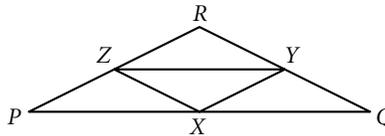


4. X , Y , and Z are midpoints. Perimeter $\triangle PQR = 132$, $RQ = 55$, and $PZ = 20$.

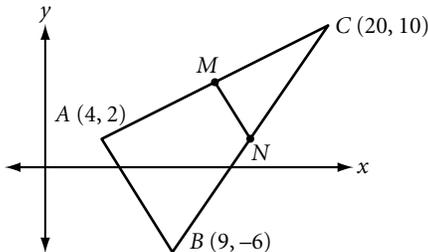
Perimeter $\triangle XYZ = \underline{\hspace{2cm}}$

$PQ = \underline{\hspace{2cm}}$

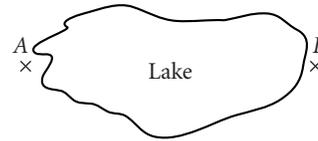
$ZX = \underline{\hspace{2cm}}$



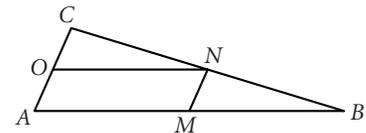
5. \overline{MN} is the midsegment. Find the coordinates of M and N . Find the slopes of \overline{AB} and \overline{MN} .



6. Explain how to find the width of the lake from A to B using a tape measure, but without using a boat or getting your feet wet.



7. M , N , and O are midpoints. What type of quadrilateral is $AMNO$? How do you know? Give a flowchart proof showing that $\triangle ONC \cong \triangle MBN$.



8. Give a paragraph or flowchart proof.

Given: $\triangle PQR$ with $PD = DF = FH = HR$
and $QE = EG = GI = IR$

Show: $\overline{HI} \parallel \overline{FG} \parallel \overline{DE} \parallel \overline{PQ}$

