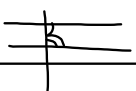
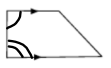
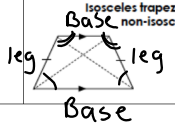


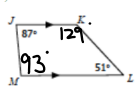
Geometry CC - Unit 9
Lesson 4: Trapezoids
M1 L28

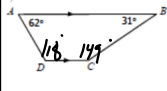



Main Ideas/Questions	Notes
NON-ISOSCELES Trapezoids	 <p>Properties of Non-Isosceles Trapezoids:</p> <ul style="list-style-type: none"> • Only ONE pair of opposite sides parallel. • Consecutive angles are supplementary.
ISOSCELES Trapezoids	<p>Isosceles trapezoids have the same properties as non-isosceles trapezoids, plus these:</p>  <ul style="list-style-type: none"> • Non-parallel sides (legs) are congruent. • Diagonals are congruent. • Base angles are congruent. • Opposite angles are supplementary.

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Practice! Find each missing value on the trapezoids below.

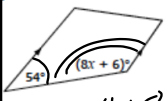
1)  $m\angle K = 129$
 $m\angle M = 93$

2)  $m\angle C = 149$
 $m\angle D = 118$



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3) Solve for x.



$$54 + 8x + 6 = 180$$

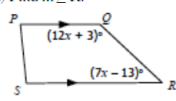
$$60 + 8x = 180$$

$$8x = 120$$

$$x = 15$$

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4) Find $m\angle R$.



$$12x + 3 + 7x - 13 = 180$$

$$19x - 10 = 180$$

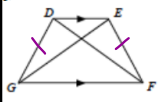
$$19x = 190$$

$$x = 10$$

$$\angle R = 7(10) - 13 = 57$$

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5) DEFG is an isosceles trapezoid.

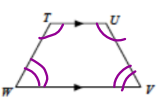


$\overline{DG} \cong \overline{EF}$ legs are \cong

$\overline{DF} \cong \overline{EG}$ Diag are \cong

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6) TUVW is an isosceles trapezoid.



$\angle T \cong \angle U$

$\angle V \cong \angle W$

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7)

\cong legs
 Isosc. Trapezoid
 $\angle S = 180 - 112$

$m\angle Q = \frac{112}{\cdot}$
 $m\angle R = \frac{68}{\cdot}$
 $m\angle S = \frac{68}{\cdot}$

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8)

$m\angle W = \frac{47}{\cdot}$
 $m\angle X = \frac{133}{\cdot}$
 $m\angle Z = \frac{133}{\cdot}$

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9)

If $MNOP$ is an isosceles trapezoid, $MP = 16x - 13$, $NO = 9x + 8$, $PN = 5y + 19$, and $MO = 12y - 37$, solve for x and y .

- \cong legs
- Diagonals \cong

$16x - 13 = 9x + 8$
 $7x = 21$
 $x = 3$

$5y + 19 = 12y - 37$
 $5y - 5y = 12y - 37 - 5y$
 $19 = 7y - 37$
 $+37 \quad +37$
 $56 = 7y$
 $\frac{56}{7} = \frac{7y}{7}$
 $y = 8$

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