
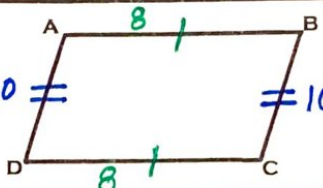
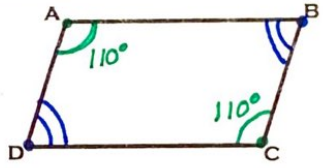
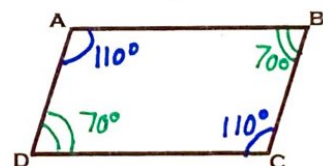
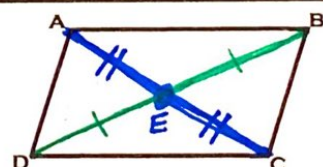

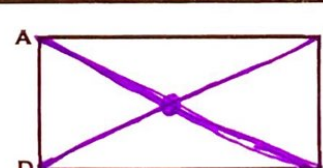


Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Quadrilaterals - Parallelograms & Rectangles

<b>Definition: A parallelogram is a quadrilateral with both pairs of opposite sides parallel.</b>				
If a quadrilateral is a parallelogram, then its <b>opposite sides are parallel.</b>		$\overline{AB} \parallel \overline{DC}$ $\overline{AD} \parallel \overline{BC}$		
If a quadrilateral is a parallelogram, then its <b>opposite sides are congruent.</b>		$\overline{AB} \cong \overline{DC}$ $\overline{AD} \cong \overline{BC}$		
If a quadrilateral is a parallelogram, then its <b>opposite angles are congruent.</b>		$m\angle DAB \cong m\angle BCD$ $m\angle ADC \cong m\angle CBA$		
If a quadrilateral is a parallelogram, then its <b>consecutive angles are supplementary.</b>		$\angle A + \angle B = 180$ $\angle A + \angle D = 180$ $\angle B + \angle C = 180$ $\angle C + \angle D = 180$		
If a quadrilateral is a parallelogram, then its <b>diagonals bisect each other.</b>		$\overline{DE} \cong \overline{BE}$ $\overline{AE} \cong \overline{CE}$		

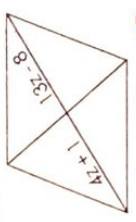
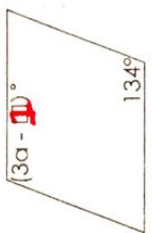
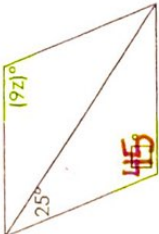
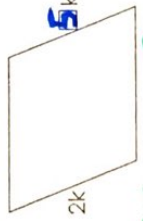
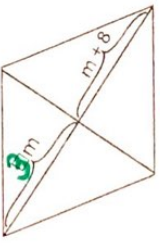

<b>Definition: A rectangle is a parallelogram with four right angles.</b>				
If a parallelogram is a rectangle, then it has <b>4 right angles.</b>		$m\angle A = 90^\circ$ $m\angle B = 90^\circ$ $m\angle C = 90^\circ$ $m\angle D = 90^\circ$		
If a parallelogram is a rectangle, then its <b>diagonals are congruent.</b>		$\overline{AC} \cong \overline{BD}$		
opposite sides are parallel	opposite sides are congruent	opposite angles are congruent	consecutive angles are supplementary	diagonals bisect each other

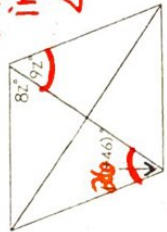


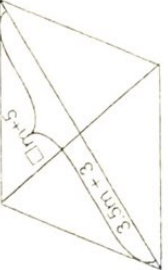


# PARALLELOGRAMS MAZE ACTIVITY

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_ CLASS: \_\_\_\_\_

Directions: Solve each problem and then plug your answer into the box for the next problem. Each problem depends on your previous answer.

<p><b>A</b> Find the value of 'z'.</p>  <p><math>4z + 1 = 13z - 8</math> <math>9 = 9z</math> <math>1 = z</math></p>	<p><b>B</b> Find the value of 'a'.</p>  <p><math>3a - 1 = 134</math> <math>3a = 135</math> <math>a = 45</math></p>
<p><b>C</b> Find the value of 'z'.</p>  <p><math>9z = 45</math> <math>z = 5</math></p>	<p><b>D</b> Find the value of 'k'.</p>  <p><math>2k = 5k - 9</math> <math>-3k = -9</math> <math>k = 3</math></p>
<p><b>E</b> Find the value of 'm'.</p>  <p><math>3m = m + 8</math> <math>2m = 8</math> <math>m = 4</math></p>	<p><b>F</b> Find the value of 'a'.</p>  <p><math>4a + 18 + 58 = 180</math> <math>4a + 76 = 180</math> <math>4a = 104</math> <math>a = 26</math></p>

<p><b>G</b> Find the value of 'z'.</p>  <p>Alt. int. L's. <math>7z = 9z</math> <math>8 = z</math></p>	<p><b>H</b> Find the value of 'y'.</p>  <p><math>12 = \frac{1}{2}y + 8</math> <math>4 = \frac{1}{2}y</math> <math>8 = y</math></p>
<p><b>I</b> Find the value of 'b'.</p> 	<p><b>J</b> Find the value of 'm'.</p> 

**K** ABCD is a parallelogram. If  $m\angle A = (4x)^\circ$  and  $m\angle D = 40^\circ$ , find the  $m\angle B$ .

**GREAT JOB!  
YOU REACHED  
THE END!**