

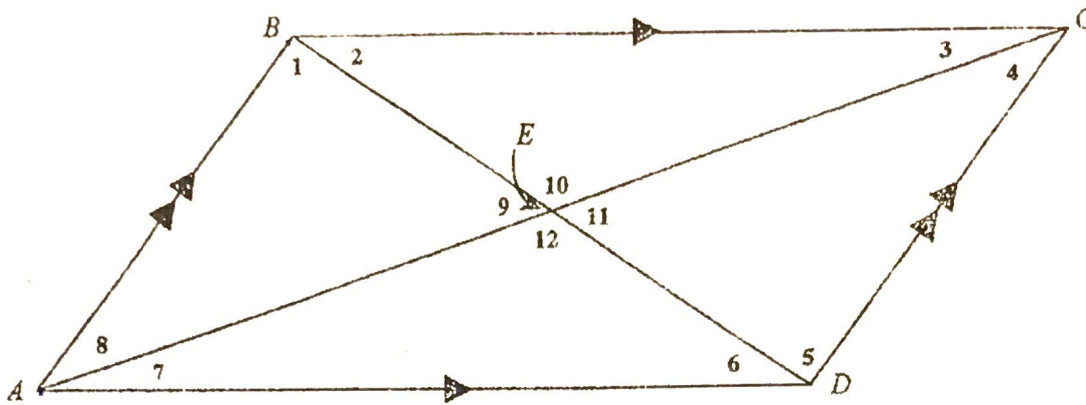
Geometry

NAME: Key

WORKSHEET: *Parallelogram Properties*

PERIOD: \_\_\_\_\_ DATE: \_\_\_\_\_

Parallelograms – Using Properties



Complete each of the following:

- 1)  $m\angle 1 = m\angle$  5      2)  $m\angle 7 = m\angle$  3      3)  $m\angle ABC = m\angle$  ADC  
 4)  $m\angle BCD = m\angle$  BAD      5)  $m\angle 9 = m\angle$  11      6)  $mBE = m$  ED  
 7)  $mAB = m$  CD      8)  $\triangle ABD \cong \triangle$  CDB      9)  $\triangle CAB \cong \triangle$  ACD  
 10)  $2 \cdot mBE = m$  BD      11)  $mAD = m$  BC      12)  $mAE = m$  EC  
 13)  $\angle BAD$  is supplementary with  $\angle$  ADC and also with  $\angle$  ABC.

IF  $ABCD$  is a *rectangle*, then:

- 14)  $m\angle ABC =$   $90^\circ$       15)  $mAC = m$  BD      16)  $m\angle 2 + m\angle 5 =$   $90^\circ$   
 17)  $m\angle 2 = m\angle$  6  $= m\angle$  7  $= m\angle$  3      18) The diagonals form 4 isosceles  $\Delta$ 's

IF  $ABCD$  is a *rhombus*, then:

- 19)  $m\angle 10 =$   $90^\circ$       20)  $m\angle 2 + m\angle 3 =$   $90^\circ$       21)  $mAB \cong$   $mBC$   
 22)  $m\angle 8 = m\angle$  7  $= m\angle$  3  $= m\angle$  4

IF  $ABCD$  is a *square*, then:

- 23)  $mAC = m$  BD      24)  $m\angle 9 = m\angle 10 = m\angle 11 = m\angle 12 =$   $90^\circ$   
 25)  $m\angle 1 = m\angle 2 = m\angle 3 = m\angle 4 = m\angle 5 = m\angle 6 = m\angle 7 = m\angle 8 =$   $45^\circ$

Name Key Date \_\_\_\_\_

**PRACTICE**

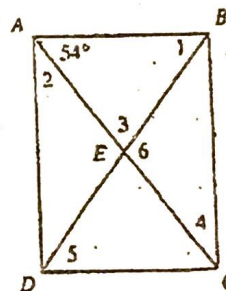
**Properties of Rectangles and Squares**

Complete the table. Place a check mark under the name of each figure for which the property is always true.

	Parallelogram	Rhombus	Rectangle	Square
1. The diagonals are perpendicular.		✓		✓
2. The figure has four right angles.			✓	✓
3. The opposite sides are congruent.	✓	✓	✓	✓
4. The diagonals are congruent.			✓	✓
5. The figure has four congruent sides.		✓		✓
6. The diagonals bisect each other.	✓	✓	✓	✓
7. The consecutive angles are supplementary.	✓	✓	✓	✓
8. Each diagonal bisects a pair of opposite angles.		✓		✓
9. The figure has exactly four lines of symmetry.				
10. The figure is a rectangle.			✓	✓

$ABCD$  is a rectangle, with  $AC = 18$ . Find each length or angle measure.

11.  $m\angle BCD$   $90^\circ$       12.  $m\angle 1$   $54^\circ$       13.  $m\angle 2$   $36^\circ$   
 14.  $m\angle 3$   $72^\circ$       15.  $m\angle 4$   $36^\circ$       16.  $m\angle 5$   $54^\circ$   
 17.  $m\angle 6$   $108^\circ$       18.  $AE$   $9$       19.  $DB$   $18$



$GHLK$  is a rectangle that is not a square. Answer true or false.

20.  $GHLK$  and its diagonals form four congruent triangles. F  
 21.  $GHLK$  and its diagonals form four isosceles triangles. T  
 22.  $\angle 1 \cong \angle 2$  F  
 23.  $\triangle GHL \cong \triangle KHL$  T  
 24.  $\overline{GK}$  is a line of symmetry. \_\_\_\_\_  
 25.  $\triangle GML \cong \triangle HMK$  T  
 26.  $\overline{GK} \cong \overline{HL}$  T

