LEARNING ACTIVITY SHEET **GRADE 9 Mathematics**

Name: _____ **Date:** _____ **Rating/Score:** ___

Activity 1: Guess What?

Directions: Write the letter of the best answer on the blank provided before each number.

____1. What can you say about any two opposite angles in a parallelogram?

A. They are always congruent. C. They are complementary.

B. They are supplementary. D. They are both right angles.

____2. Any two consecutive angles in a parallelogram are _____.

A. always congruent. C. complementary.

B. supplementary. D. both right angles.

____3. The following statements are FALSE, except

A. Every square is a rectangle.

B. Every rhombus is a rectangle.

C. Every rectangle is a square.

D. Every parallelogram is a rhombus.

____4. The following statements are TRUE, except

A. The diagonals of a rectangle are congruent

B. The diagonals of an isosceles trapezoid are congruent

C. The diagonals of a square are perpendicular and bisect each other

D. The diagonals of a rhombus are congruent and perpendicular to each other

____5. A quadrilateral whose diagonals do not bisect each other.

A. Square B. Rhombus C. Rectangle D. Trapezoid

____6. A condition which is not sufficient to prove that a quadrilateral is a parallelogram.

A. Two pairs of sides are parallel

B. Two pairs of opposite sides are congruent

C. Two angles are supplementary

D. Two diagonals bisect each other

Specific Week: Week 1 and 2

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____7. A closed figure bounded by four line segments or sides.

A. Kite B. Triangle C. Quadrilateral D. Pentagon

____8. What do you call the two sides of a quadrilateral with a common vertex?

A. Opposite sides C. Consecutive sides

B. Consecutive angles D. Opposite vertices

____9. What do you call the segments joining opposite vertices of a quadrilateral?

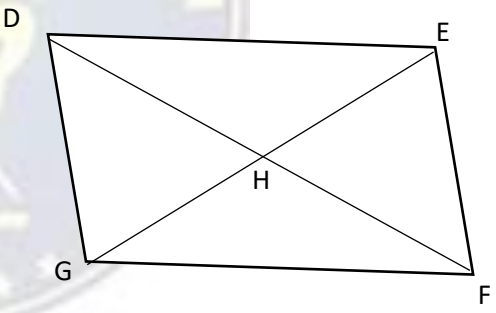
A. Sides B. Angles C. Diagonals D. Vertex

____10. If the diagonals of a quadrilateral intersect, then it is _____.

A. Concave B. Convex C. Nonconvex D. Congruent

Activity 2: Yes You Can!

A. Given parallelogram DEFG. Complete each statement by writing your answer on the blank after each number.



1. $\overline{DH} \cong$ _____.
2. $\overline{DG} \cong$ _____.
3. $\angle GDE \cong$ _____.
4. $\overline{GH} = \frac{1}{2}$ _____.
5. $\overline{DE} \cong$ _____.
6. $\angle DEG \cong$ _____.
7. $\angle DFG \cong$ _____.
8. $m\angle DEF = 180° -$ _____.
9. $\Delta DFG \cong \Delta$ _____.
10. $\Delta DHE \cong \Delta$ _____.
11. If $m\angle GDE = (2x + 5)° and\ m\angle GFE = (3x - 31)°, then\ m\angle GDE =$ _____.
12. If $m\angle DGF = x°\ and\ m\angle GDE = (3x - 4)°, then\ m\angle DEF =$ _____.
13. If $GE = (3x - 4)\ and\ m\ GH = x + 5, then\ HE =$ _____.
14. If $DG = (2x - 3)\ and\ DE = (3x - 1), and\ GF = (2x + 11), then\ EF =$ _____.
15. If $m\angle DEG = (3x)°\ and\ m\angle FGE = (x + 28)°, then\ m\angle FGE =$ _____.

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B. ABCD is a parallelogram. Tell which kind of special parallelogram is identified in the following. Write your answer on the blank opposite each number.

1. $\overline{AC} \cong \overline{BD}$ _____
2. AC = 4 cm; BD = 6 cm _____
3. m$\angle A$ = m$\angle B$ = m$\angle C$ = m $\angle D$ _____
4. $\Delta ABD \text{ and } \Delta BCD \text{ are isosceles right triangles.}$ _____
5. $\overline{AC} \cong \overline{BD}; \overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$ _____

Activity 3: Am I True / Am I False?

A. Identify whether the following statements are **True** or **False**. Write your answer on the blank before each number.

_____1. A quadrilateral with four congruent sides is a rhombus.
_____2. A parallelogram with at least one right angle is a rectangle.
_____3. A quadrilateral with perpendicular diagonal is a rhombus.
_____4. A quadrilateral with congruent diagonals is a rectangle.
_____5. If the diagonals of a quadrilateral bisect each other, then the quadrilateral is a rectangle.
_____6. If the diagonals of a quadrilateral are perpendicular bisector of each other, then the quadrilateral is a rhombus.
_____7. If all angles of a quadrilateral are congruent, then the quadrilateral is a rectangle.
_____8. Every square is a rhombus.
_____9. All squares are rectangle.
_____10. Some rectangles are rhombi.

B. With the given condition below, identify whether the quadrilateral having that condition is a p**arallelogram**, a **rectangle**, a **rhombus**, or a **square**. Write your answer on the blank before each number.

_____1. Two of its angles are right angles.
_____2. Both pairs of its opposite sides are congruent.
_____3. Its diagonals are congruent.
_____4. Its Diagonals are congruent and perpendicular.
_____5. Its diagonals are perpendicular.
_____6. Its diagonals are congruent and they bisect each other.
_____7. Each pair of consecutive angles is supplementary.
_____8. Its diagonals bisect each other.

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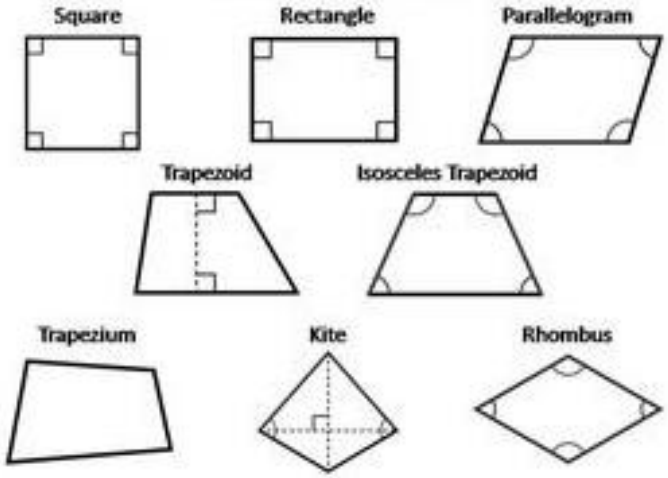
_____9. It is equiangular.
_____10. Its diagonals bisect each other, are congruent and perpendicular.

Activity 4: Puzzle – Me!

Directions: In the given crossword puzzle, box the names of the quadrilaterals that are illustrated below.

S	W	D	I	Y	Q	U	R	T	R	A	P	E	Z	I	U	M	D
F	Q	B	T	H	E	T	Y	A	F	Q	A	T	T	W	R	D	J
C	L	U	A	D	K	E	E	V	F	S	R	F	R	R	H	N	L
T	E	A	A	J	R	I	U	Y	I	G	A	E	E	T	M	R	D
D	H	F	H	R	E	C	T	A	N	G	L	E	L	M	S	H	H
K	E	Y	W	P	E	S	A	E	I	K	L	Q	P	B	H	O	A
F	J	T	R	A	P	E	Z	O	I	D	E	W	K	G	R	M	I
S	O	Q	J	O	T	F	S	R	R	Q	L	H	L	V	D	B	B
K	P	F	M	Y	G	T	M	D	B	S	O	L	R	D	T	U	E
E	R	P	A	R	A	L	L	E	L	O	G	R	A	M	X	S	D
I	Y	P	S	H	H	O	Y	B	Y	W	R	R	H	A	G	T	T
I	S	O	S	C	E	L	E	S	T	R	A	P	E	Z	O	I	D



Writer: **EMALYN M. BALLONADO** Validator: _____

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ANSWER KEY:

ACTIVITY 1

1 A
2 B
3. A
4. D
5. D
6. C
7. C
8. C
9. C
10. B

ACTIVITY 2

A	**B**
1. $\overline{FH}$ *or* $\overline{HF}$	1. Square; Rectangle
2. $\overline{FE}$	2. Rhombus
3. $\angle EFG$	3. Square & rectangle
4. $\overline{GE}$	4. Square & rhombus
5. $\overline{FG}$	5. Square
6. $\angle FGE$	
7. $\angle FDE$	
8. EFG *or* $\angle FGD$	
9. ΔFED	
10. ΔFHG	
11. m$\angle GDE = 77°$	
12. m$\angle DEF = 48°$	
13. HE = 19	
14. EF = 21	
15. m$\angle FEG = 42$	

ACTIVITY 3

A	**B**
1.True	1. Rectangle
2. True	2. Parallelogram
3. True	3. Rectangle
4. True	4. Square
5. False	5. Rhombus
6. True	6. Rectangle
7. True	7. Parallelogram
8. True	8. Parallelogram
9. True	9. Rectangle
10. True	10. Square

Activity 4

S	W	D	I	Y	Q	U	R	T	R	A	P	E	Z	I	U	M	D
F	Q	B	T	H	E	T	Y	A	F	Q	A	T	T	W	R	D	J
C	L	U	A	D	K	E	E	V	F	S	R	F	R	R	H	N	L
T	E	A	A	J	R	I	U	Y	I	G	A	E	E	T	M	R	D
D	H	F	H	R	E	C	T	A	N	G	L	E	L	M	S	H	H
K	E	Y	W	P	E	S	A	E	I	K	L	Q	P	B	H	O	A
F	J	T	R	A	P	E	Z	O	I	D	E	W	K	G	R	M	I
S	O	Q	J	O	T	F	S	R	R	Q	L	H	L	V	D	B	B
K	P	F	M	Y	G	T	M	D	B	S	O	L	R	D	T	U	E
E	R	P	A	R	A	L	L	E	L	O	G	R	A	M	X	S	D
I	Y	P	S	H	H	O	Y	B	Y	W	R	R	H	A	G	T	T
I	S	O	S	C	E	L	E	S	T	R	A	P	E	Z	O	I	D

Writer: **EMALYN M. BALLONADO** Validator: **KRYSTELLE R. DUMLAO**

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