LEARNING ACTIVITY SHEET **GRADE 9 Mathematics**

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

Activity 1: Give Your Best Choice!

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

____1. A quadrilateral with exactly one pair of parallel sides.

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

____2. What do you call the non-parallel sides of a trapezoid?

A. Bases B. Base Angles C. Legs D. Sides

____3. The median of a trapezoid is parallel to each base and its length is ____ the sum of the length of the bases.

A. One-third C. One-fourth

B. One-half D. One-eighth

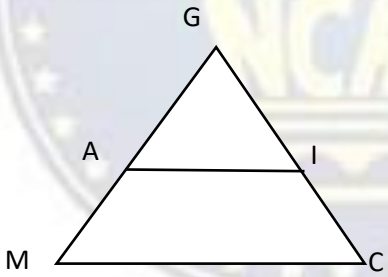
____4. If the upper base and the lower base of a trapezoid measure 12 cm and 18 cm respectively, how long is the median?

A. 15 cm B. 16 cm C. 17 cm D. 18 cm

____5. The segment that joins the midpoints of two sides of a triangle is _____ to the third side and half as long.

A. congruent B. equal C. parallel D. perpendicular

Use the figure below for numbers 6-8.



____6. In△ MCG, A and I are the midpoints of $\overline{MG}$ and $\overline{CG}$, respectively. If AI = 10.5, what is MC?

A. 20 B. 21 C. 22 D. 23

____7. In the figure, if CG = 32, what is GI?

A. 16 B. 8 C. 4 D. 2

____8. If AI = 3x – 2 and MC = 9x -13, what is the value of x?

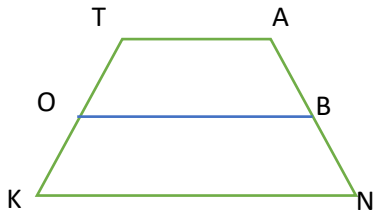
A. 1 B. 2 C. 3 D. 4

Specific Week: Week 3 and 4

Target Competency: Proves the Midline Theorem, proves theorems on trapezoids and kites, and solve problems involving parallelograms, trapezoids, and kites.

Note to the Teacher: This LAS is designed to develop the students' comprehension and understanding about the applications of the different theorems on trapezoids, parallelograms, and kites in solving different problems involving them. Reference: Learners' Material, 327-343.

Use the figure below for numbers 9-10.



____9. Using trapezoid TANK with median $\overline{OB}$, if OB = 9 and AT = 5, find KN.

A.12 B. 13 C. 14 D.15

____10. If AT = 3x + 8, OB = 5x + 4, and KN = 6x + 4, find x.

A. 4 B. 5 C. 6 D. 8

Activity 2: Go For It!

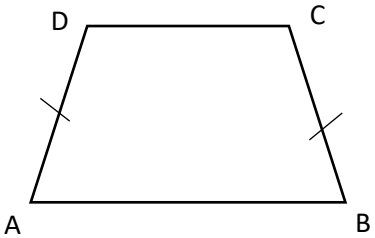
A. Refer to trapezoid EFGH with median $\overline{IJ}$. Write your answer for each problem on the blank before each number.

_____1. If IJ = x, HG = 8 and EF = 12, what is the value of x?

_____2. If IJ = y + 3, HG = 14 and EF = 18, what is the value of y? What is IJ?

_____3. If HG = x, IJ = 16 and EF = 22, what is the value of x?

B. Given isosceles trapezoid ABCD. Write your answer for each problem on the blank before each number.



_____1. If m$\angle A = 70$, what is m$\angle B$?

_____2. If m$\angle D = 105$, what is m$\angle C$?

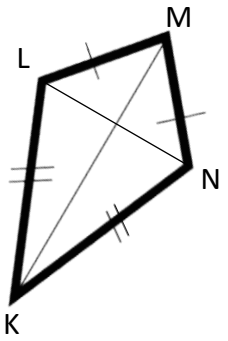
_____3. If m$\angle B = 2x - 6$ and $m\angle A = 82$, what is x?

_____4. If m$\angle C = 2(y + 4)$ and m$\angle D = 116$, what is y?

_____5. If AC = 56 cm, what is DB?

Specific Week: Week 3 and 4
Target Competency: Proves the Midline Theorem, proves theorems on trapezoids and kites, and solve problems involving parallelograms, trapezoids, and kites.
Note to the Teacher: This LAS is designed to develop the students' comprehension and understanding about the applications of the different theorems on trapezoids, parallelograms, and kites in solving different problems involving them. Reference: Learners' Material, 327-343.

C. Consider kite KLMN on the right. Write your answer for each problem on the blank before each number.



_____1. Name the pairs of congruent and adjacent sides.

_____2. If LM = 6, what is MN?

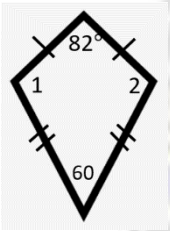
_____3. If KN = 10.5, what is KL?

_____4. If LN = 7 cm and KM = 13 cm, what is the area?

_____5. If the area is 96 cm² and LN = 8 cm, what is KM?

Activity 3: Watch Out! Another Kite!

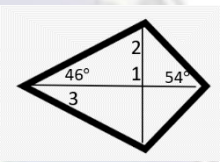
A. Find the measures of the numbered angles in each kite. Write your answer on the blank after each angle.

1. 

Find:

a. m∠1 = _____

b. m∠2 = _____

2. 

Find:

c. m∠1 = _____

d. m∠2 = _____

e. m∠3 = _____

Activity 4: You Can Do It!

A. ***Directions:*** Tell whether each statement is TRUE or FALSE. Write your answer on the blank before each number.

_____1. The diagonals of a trapezoid are congruent

_____2. The opposite sides of isosceles trapezoids are congruent

_____3. The opposite angles of a kite can be supplementary

_____4. The length of the median of a trapezoid is one half the sum of the lengths of the bases.

_____5. If □SOUL is a kite, then $\overline{SO} \perp \overline{OL}$.

Specific Week: Week 3 and 4
Target Competency: Proves the Midline Theorem, proves theorems on trapezoids and kites, and solve problems involving parallelograms, trapezoids, and kites.
Note to the Teacher: This LAS is designed to develop the students' comprehension and understanding about the applications of the different theorems on trapezoids, parallelograms, and kites in solving different problems involving them. Reference: Learners' Material, 327-343.

In trapezoid SALT, ST = 16, PS = 9, AL = 34, and m∠S = 110°.

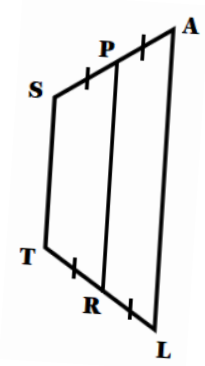
Find:

___6. PR

___7. TL

___8. m∠T

___9. m∠A



B. Given: AB = (3X – 5) cm, BC = (2y – 7) cm, CD = (x+7) cm, and AD = (y + 3)

____1. What is the value of x?

____2. How long is $\overline{AB}$?

____3. What is the value of y?

____4. How long is $\overline{AD}$?

____5. What is the perimeter of parallelogram ABCD?

Activity 5: Show More What You've Got!

Directions: Solve the following problems. Use an extra sheet of pad paper for your solutions.

1. The perimeter of a kite is 64cm. the length of one of its side is 14cm more than half the length of another. Find the length of each side of the kite.

2. If the number of degrees in one angle of an isosceles trapezoid is x, and the opposite angle is x + 20°, how many how many degrees are there in each angle?

3. Two consecutive angles of a parallelogram have measures 4(x + 5) and 2(3x+20), respectively. Find the measures of the angles.

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

Specific Week: Week 3 and 4

Target Competency: Proves the Midline Theorem, proves theorems on trapezoids and kites, and solve problems involving parallelograms, trapezoids, and kites.

Note to the Teacher: This LAS is designed to develop the students' comprehension and understanding about the applications of the different theorems on trapezoids, parallelograms, and kites in solving different problems involving them. Reference: Learners' Material, 327-343.

ANSWER KEY:

ACTIVITY 1	ACTIVITY 2	ACTIVITY 3	ACTIVITY 4	ACTIVITY 5
1. D 2. C 3. B 4. A 5. C 6. B 7. A 8. C 9. B 10. x = 4	**A.** 1. x =10 2. y = 13 IJ = 16 3. x = 10 **B.** 1. m∠B = 70 2. m∠C = 105 3. x = 44 4. y = 54 5. DB = 56 cm **C.** 1. $\overline{LM}$ and $\overline{MN}$; $\overline{LK}$ and $\overline{NK}$ 2. MN = 6 3. KL = 10.5 4. A = 45.5 cm^2 5. KM = 24 cm	1. a. m∠1 = 109° b. m∠2 = 109° 2. c. m∠1 = 90° d. m∠2 = 44° e. m∠3 = 46°	**A.** 1. FALSE 2. FALSE 3. TRUE 4. TRUE 5. FALSE 6. 25 7. 18 8. 110° 9. 70° **B.** 1. X = 6 2. $\overline{AB}$ = 13 3. Y = 10 4. $\overline{AD}$ = 13 5. Perimeter = 52	1. 12cm, 12cm, 20cm, 20cm 2. 80°, 80°, 100°, 100° 3. 112°, 112°, 68°' and 68°

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

Specific Week: Week 3 and 4
Target Competency: Proves the Midline Theorem, proves theorems on trapezoids and kites, and solve problems involving parallelograms, trapezoids, and kites.
Note to the Teacher: This LAS is designed to develop the students' comprehension and understanding about the applications of the different theorems on trapezoids, parallelograms, and kites in solving different problems involving them. Reference: Learners' Material, 327-343.