LEARNING ACTIVITY SHEET **GRADE 9 Mathematics**

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

Activity1: Choose Me Wisely!

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

____1. Which of the following statements determines that two triangles are similar?

I. If three angles of one triangle are congruent to three corresponding angles of another triangle, then the triangles are similar.

II. If the measures of two sides of a triangle are proportional to the measures of two corresponding of another triangle and the included angles are congruent, then the triangles are similar.

III. If the measures of the corresponding sides of two triangles are proportional, then the triangles are similar.

A. I and II only B. I, II, III C. II and III only D. I and III

____2. Which of the following statements describe similar triangles?

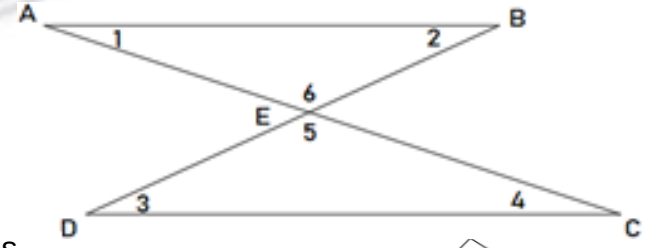
A. They have the same shape, but may not be the same size.
B. Their corresponding sides are proportional.
C. Their corresponding angles are equal in measure.
D. All of these statements describe similar triangle.

____3. According to the AA similarity postulate, two triangles are similar if they have how many corresponding angles with equal measure?

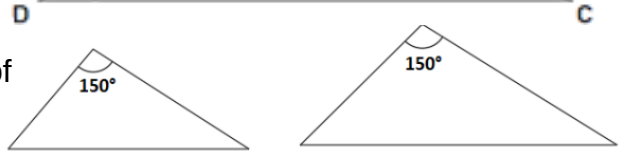
A. Four B. Three C. Two D. One

____4. In the figure, AB is parallel to CD, BD and AC are transversals. What are the two pairs of corresponding angles that are congruent to make $\Delta AEB \; and \; \Delta CED$ similar?

A. $\angle 3 \cong \angle 1$ and $\angle 4 \cong \angle 2$
B. $\angle 6 \cong \angle 5$ and $\angle 4 \cong \angle 2$
C. $\angle 6 \cong \angle 5$ and $\angle 1 \cong \angle 4$
D. $\angle 6 \cong \angle 5$ and $\angle 1 \cong \angle 3$



____5. Are the following two triangles similar?

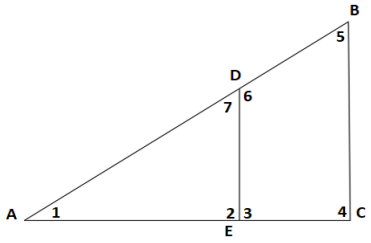


A. Yes, they are similar, because they are triangles.
B. Yes, they are similar, because they have one set of corresponding angles of equal measure.
C. No, they are not similar.
D. There is no enough information to tell if they are similar.

Specific Week: Week 7 and 8
Target Competency: Proves the conditions for similarity of triangles (M9GE-IIIg-h-39), applies the theorems to show that given triangles are similar (M9GE-IIIj-40), proves the Pythagorean theorem (M9GE-IIIj-41), and solve problems that involve triangle similarity and right triangle{M9GE-IIIJ42).
Note to the Teacher: This LAS was created by the writer in order to develop the students' comprehension and understanding about solving problems involving triangle similarities and right triangles. Reference: Learners' Material, pages 361-387.

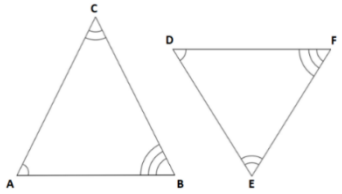
____6. Based on the figure at the right, $DE \parallel BC$ and $\Delta ABC \sim \Delta ADE$. Which of the following statements is true?

A. $\angle 2 \cong \angle 6$ and $\angle 3 \cong \angle 7$
B. $\angle 2 \cong \angle 4$ and $\angle 7 \cong \angle 5$
C. $\angle 2 \cong \angle 3$ and $\angle 7 \cong \angle 6$
D. $\angle 1 \cong \angle 1$ and $\angle 2 \cong \angle 5$



____7. Based on the figure, which of the following is the correct triangle similarity statement?

A. $\Delta CBA \sim \Delta DFE$
B. $\Delta ABC \sim \Delta EFD$
C. $\Delta BAC \sim \Delta FDE$
D. $\Delta CAB \sim \Delta DFE$



____8. Complete the statement: If a line parallel to the third side of a triangle intersects the other two sides, then it _____ those sides proportionally.

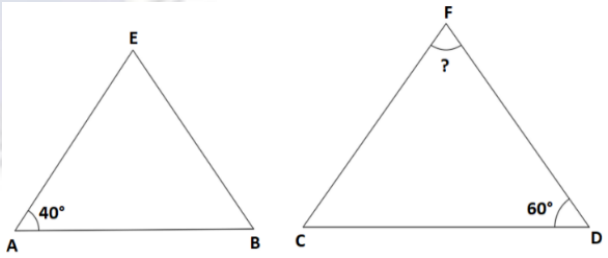
A. adds B. subtracts C. multiplies D. divides

____9. Complete the statement: If a segment bisects an angle of a triangle, then it divides the opposite side into segments _____ to the other two sides.

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

____10. In the figure below, $\Delta ABE \sim \Delta CDF$. What is the measure of $\angle F$?

A. 80◦
B. 70◦
C. 60◦
D. 50



Activity 2: What's My Value?

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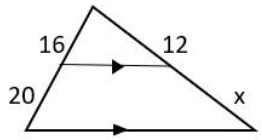
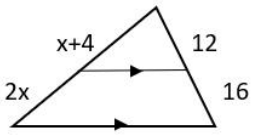
Directions: Use an extra sheet of pad paper to solve for x then write its value on the blank provided below each figure.

1.



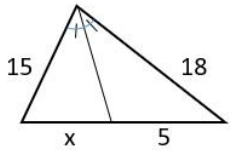
x = _____

2.



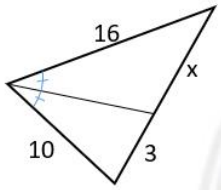
x = _____

3.



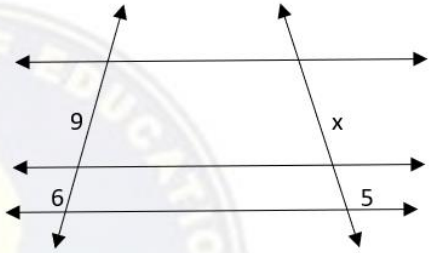
x = _____

4.



x = _____

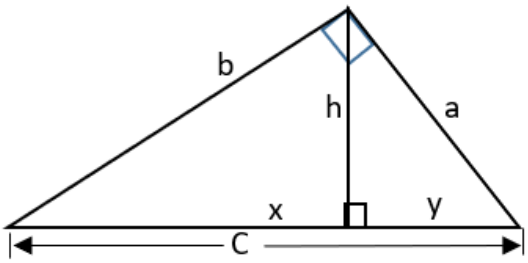
5.



x = _____

Activity 3: Intensify Your Understanding!

Directions: Refer to the diagram, then find the indicated lengths. Write your answer on the blank provided after each unknown variable.



1. x = 27, y = 3, h = _____
2. 2. c = 25, b = 20, x = _____
3. h = $3\sqrt{2}$, y = 3, x = _____
4. y = 16, a = 32, c = _____
5. x = 5, y = 2, a = _____
6. c = 25, y = 7, h = _____
7. h = 8, x = 16, y = _____
8. h = $3\sqrt{5}$, x = 9, y = _____
9. x = 3, y = 2, b = _____
10. x = 4, y = 5, a = _____

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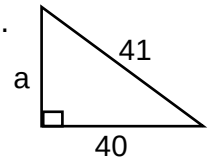
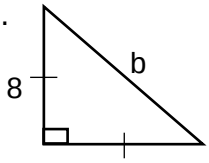
Activity 4: Dig Deeper!

Find the missing length. Write your answer on the blank before each number.

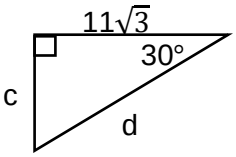
____1.



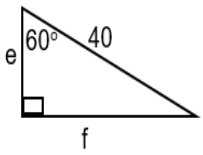
____2.



____3.



____4.



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ANSWER KEY:

ACTIVITY 1

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

ACTIVITY 2

1. x = 15
2. x = 8
3. x = $\frac{25}{6}$
4. x = $\frac{24}{5}$
5. x = $\frac{15}{2}$

ACTIVITY 3

1. 9
2. 16
3. 6
4. 64
5. $\sqrt{14}$
6. $2\sqrt{14}$
7. 4
8. 5
9. $\sqrt{15}$
10. $3\sqrt{5}$

ACTIVITY 4

1. a = 9
2. b = $8\sqrt{2}$
3. c = 11
   d = 22
4. e = 20
   f = $20\sqrt{3}$

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