

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## UNIT 3 SUMMATIVE ASSESSMENT | *PRACTICE*

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*Objective: I can analyze patterns and make conclusions.*

**Use inductive reasoning to describe each pattern and find the next two consecutive terms of each sequence. (Questions: 5)**

1) -3, 6, -12, 24, -48 ...

2) 5, 11, 18, 26, ...

3) 

*Objective: I can find counterexamples and prove statements false.*

**Find a counterexample for the following statements. (Questions: 2)**

5) The difference of two integers is less than either integer.

*Objective: I can identify the hypothesis and conclusion of conditional statements.*

**Identify the hypothesis and conclusion of the following statements. Then write them as conditional statements. (Questions: 2)**

6) The dog will bark if a stranger walks by the house.

*Objective: I can write the converse, inverse, and contrapositive statements for a given conditional statement and find the truth values of each.*

- 7) Write the converse, inverse, and contrapositive statements for the following true conditional statement. Then identify the truth values of each.

If a square has 5 in. sides, then the square has area  $25 \text{ in}^2$ .

<i>Statement Name</i>	<i>Written Statement</i>	<i>Truth Value</i>
Conditional	If a square has 5 in. sides, then the square has area $25 \text{ in}^2$ .	True
Converse		
Inverse		
Contrapositive		

*Objective: I can combine two statements to form a biconditional statement.*

- 8) The following conditional statement below is true. Write its converse. If the converse is also true, combine the statements as a biconditional.

If a triangle is equilateral, then its interior angles each measure  $60^\circ$ .

*Objective: I can use the Law of Detachment or the Law of Syllogism to make a conclusion from given statements.*

**If possible, make a conclusion from the given true statements. State what type of reasoning you used (Law of Detachment or Law of Syllogism). (Questions: 2)**

- 9) If a parallelogram has four congruent sides, then it is a rhombus. Figure ABCD is a parallelogram with four congruent sides.

10) If a polygon is a square, then it has exactly four congruent angles. If a polygon has exactly four congruent angles, then it is a rectangle.

*Objective: I can identify properties of equality or congruence to justify arguments.*

**Name the property of equality or congruence that justifies going from the first statement to the second statement (Questions: 2).**

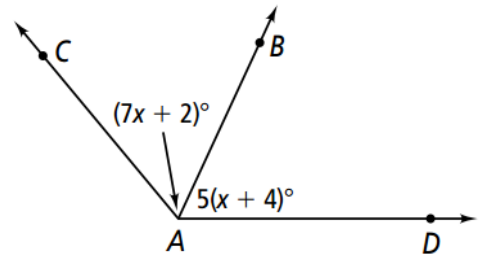
11) If  $\angle P \cong \angle K$   
Then  $\angle K \cong \angle P$ .

15) If  $4 + f = 16$   
Then  $f = 12$ .

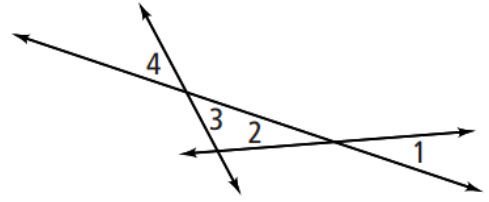
*Objective: I can apply the properties of equality and congruence to write a proof.*

**Write a proof from the given information. (Questions: 2)**

16) Given:  $\overrightarrow{AB}$  is the bisector of  $\angle CAD$ .  
Prove:  $x = 9$



- 17) Given:  $\angle 1 \cong \angle 4$   
 Prove:  $\angle 2 \cong \angle 3$

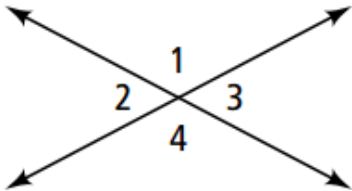


*Objective: I can use angle relationships to solve for missing angle measures.*

**Use the given diagram / information regarding the angle relationships to solve for  $x$  and find the missing angle measures. (Questions: 2)**

- 18) Solve for  $x$ . Then find the four missing angle measures.

Given:  $m\angle 1 = -5x$ ;  $m\angle 2 = 9x + 148$



$x =$

$m\angle 1 =$

$m\angle 2 =$

$m\angle 3 =$

$m\angle 4 =$