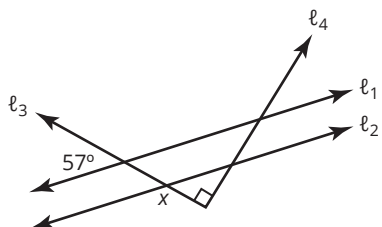# Enhanced End of Topic Assessment

Name _____   Date _____

Part A: Multiple-Choice Questions

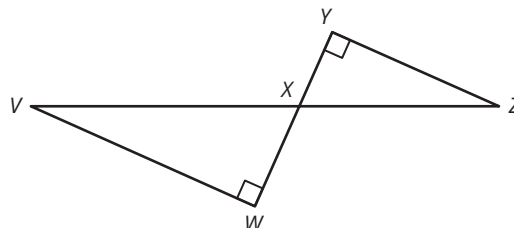**1.** In the figure shown, $\ell_1 \parallel \ell_2$ and $\ell_3 \perp \ell_4$.
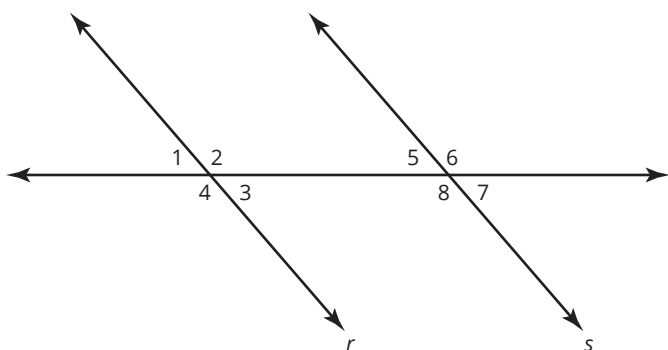

What is the value of *x*?

a. 147°

b. 57°

c. 123°

d. 33°

2. Which conclusion about the two triangles shown is correct?

a. $\Delta VWX \sim \Delta ZYX$ by the AA Similarity Theorem.

b. $\Delta VXW \sim \Delta XYZ$ by the AA Similarity Theorem.

c. The triangles are not similar.

**d.** There is not enough information to determine whether the triangles are similar.

3. In the figure shown, *r* ‖ *s*.

If the m∠1 is 34°, which statement is true?

a. The m∠6 is also 34° because corresponding angles are congruent.

b. The m∠7 is 56° because ∠1 and ∠7 are complementary angles.

c. The m∠7 is 146° because ∠1 and ∠7 are supplementary angles.

**d.** The sum of m∠1 and m∠6 is 180° because they are supplementary angles.

4. Four triangles are shown. One side of each triangle lies on a ray, and the triangles are not drawn to scale.
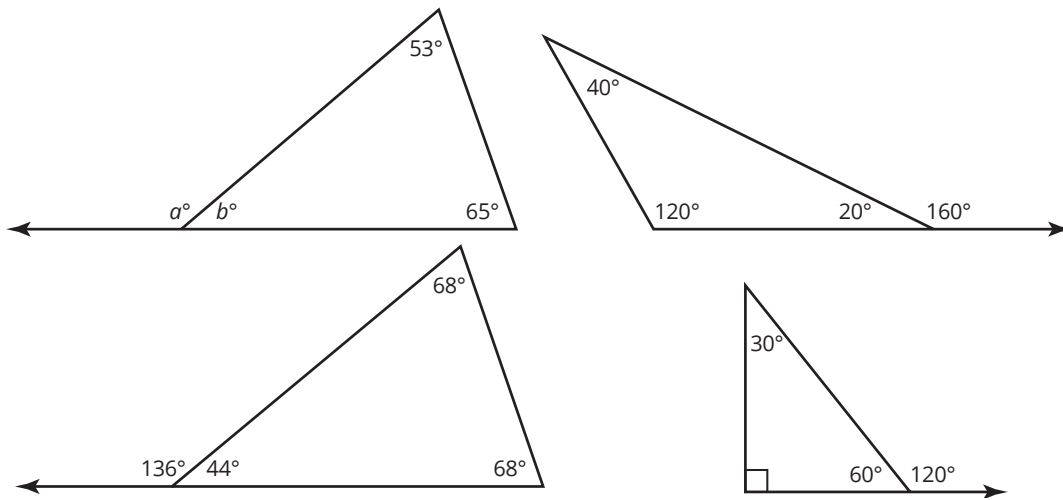
Based on these triangles, which statement is true?

a. $a = 298$, because $53 + 65 = 118$ and $118 + 180 = 298$.

b. $a = 168$, because $180 - 65 = 115$ and $115 + 53 = 168$.

c. $a = 62$, because $53 + 65 = 118$ and $180 - 118 = 62$.

d. $a = 118$, because $180 - (53 + 65) = 62$ and $180 - 62 = 118$.

5. In each diagram, line *m* is parallel to line *n*, and line *t* intersects lines *m* and *n*.

105° *m*

75° *t* *n*

m

n *t*

125° *m*

55° *t* *n*

47° *m*

x° *n* *t*
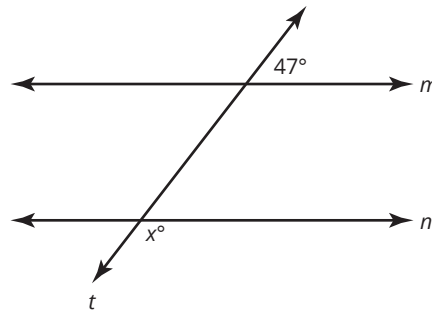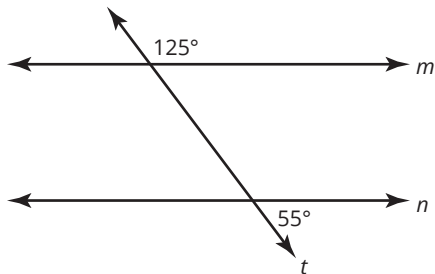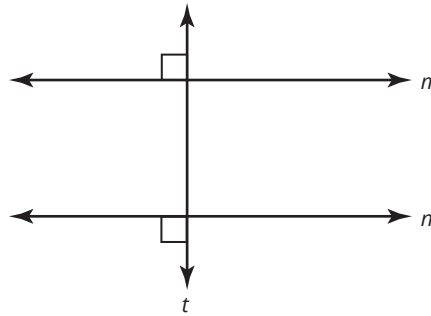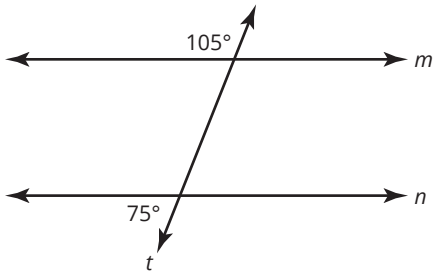
Based on the diagrams, which statement is true?

a. The value of *x* is 47, because the two angles shown in each diagram are congruent.

b. The value of *x* is 43, because the two angles shown in each diagram are complementary.

c. The value of *x* is 133, because the two angles shown in each diagram are supplementary.

d. The value of *x* is less than 90, because the two angles shown in each diagram are acute angles.

Part B: Open-Response Questions

6. Determine the value of *x* in each diagram. Show your work.

a.

b.

c.
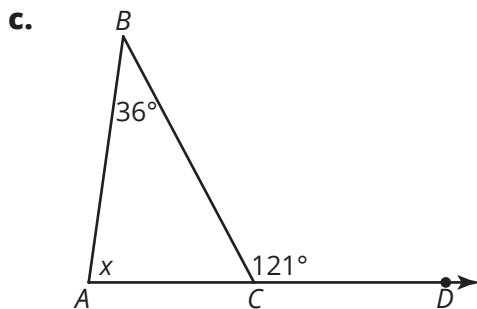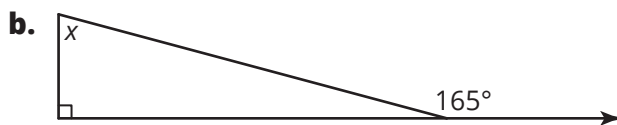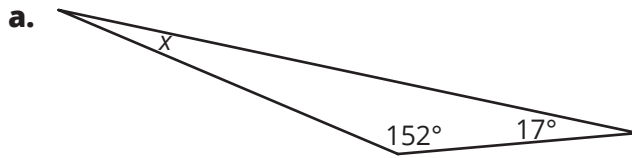
7. When two parallel lines are cut by a transversal, explain the difference in the relationship between corresponding angles and same-side exterior angles.

8. When two parallel lines are cut by a transversal, explain the difference in the relationship between same-side interior angles and alternate interior angles.

9. The map shows a portion of downtown Prairie View. 1st Avenue is parallel to 2nd Avenue. Use the map to answer each question.
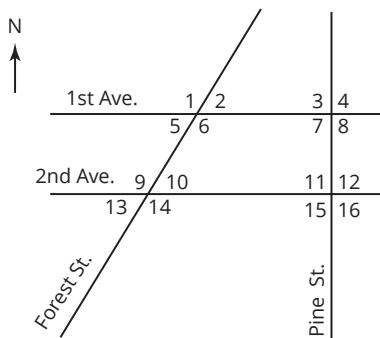

a. Identify a pair of vertical angles.

b. Identify a pair of alternate interior angles.

c. Identify a pair of same-side exterior angles.

10. In the figure shown, $m \parallel n$. If $m\angle 2 = 53°$, determine the measures of the other seven angles in the figure.
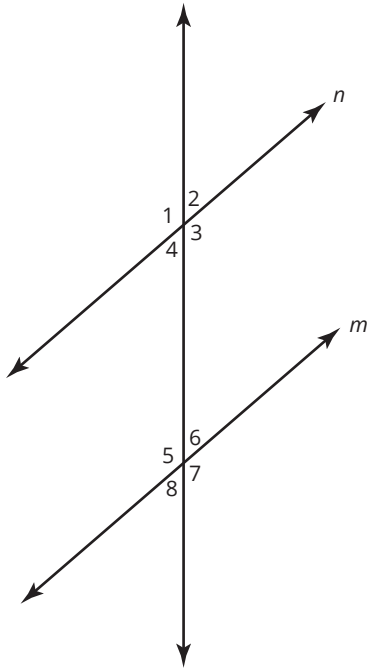
11. Determine whether the triangles are similar. If there is sufficient information to determine that the triangles are similar, write a similarity statement and explain your reasoning. And if there is not sufficient information, explain your reasoning.
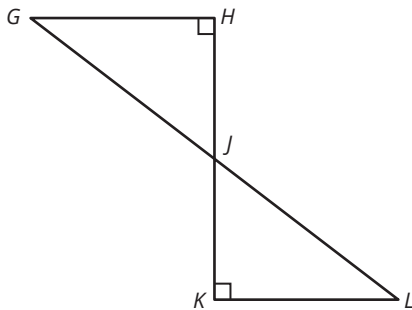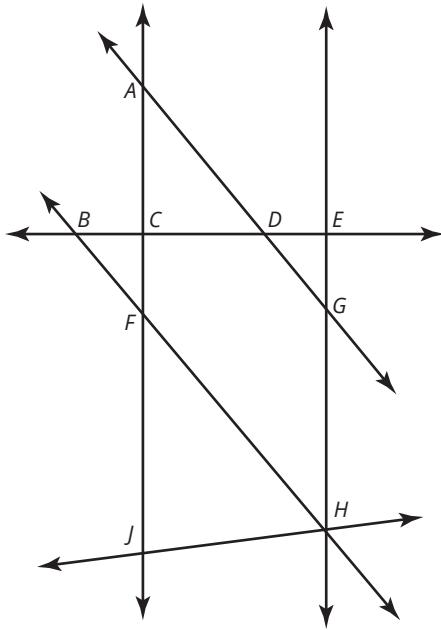
12. Consider triangle *ABC* and triangle *DBE*.
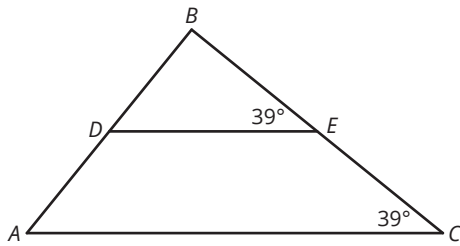
a. How do you know the triangles are similar?

b. Write a similarity statement.

13. In the figure shown, $\overline{AF} \parallel \overline{EH}, \overline{AG} \parallel \overline{BH}, \overline{BE} \perp \overline{AF}, \overline{BE} \perp \overline{EH}$.
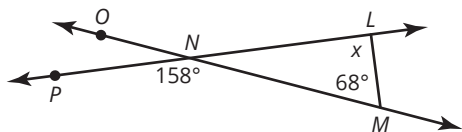

a. Is $\triangle DEG \sim \triangle HJF$? Explain your reasoning.

b. Is $\triangle ACD \sim \triangle BCF$? Explain your reasoning.

Part C: Griddable Response Questions

Record your answers and fill in the bubbles. Be sure to use the correct place value.
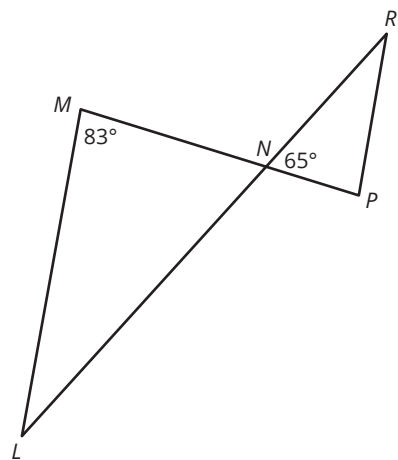
14. What is the value of x?

15. In the figure shown, $\ell_1 \parallel \ell_2$. If m∠6 = 146°, what is the measure of angle 1?
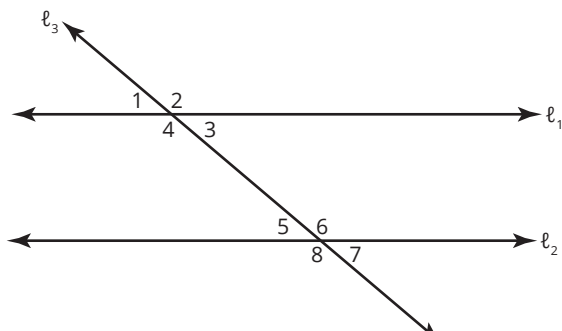
16. In the figure, $\overline{LM} \parallel \overline{PR}$. What is the measure of angle R?