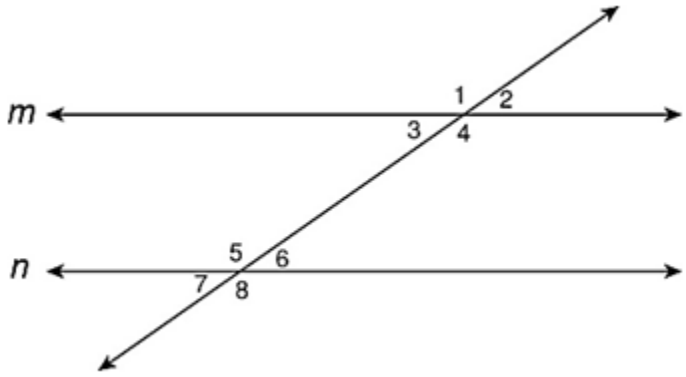
Name: _____ Date: _____ Class: _____ GRADE: _____

UNIT 6 REVIEW

Objective 1

Use the figure below for problems 1 – 5:

Given line *m* is parallel to line *n*.



1. Name both sets of alternate exterior angle and make a conjecture about their angle measures.

2. Name both sets of alternate interior angles and make a conjecture about their angle measures.

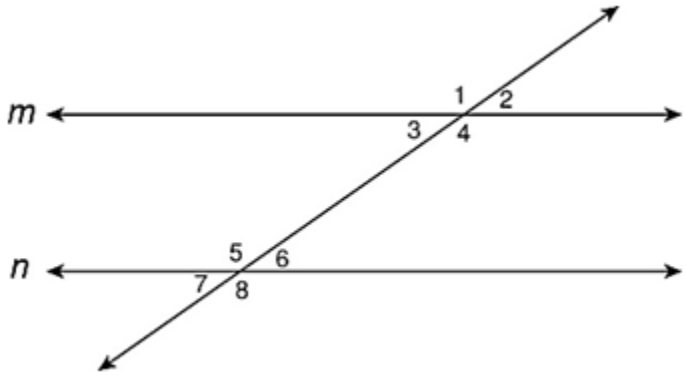
3. Name both sets of same-side interior angles and make a conjecture about their angle measures.

4. Name all 4 sets of corresponding angles and make a conjecture about their angle measures.

5. Name a pair of angles that for a linear pair and make a conjecture about their angle measures.

Use the figure below for problems 6 – 10:

Given line *m* is parallel to line *n*.



6. Name a pair of vertical angles and make a conjecture about their angle measures.

7. Name all of the angles that are supplementary to ∠3. Justify.

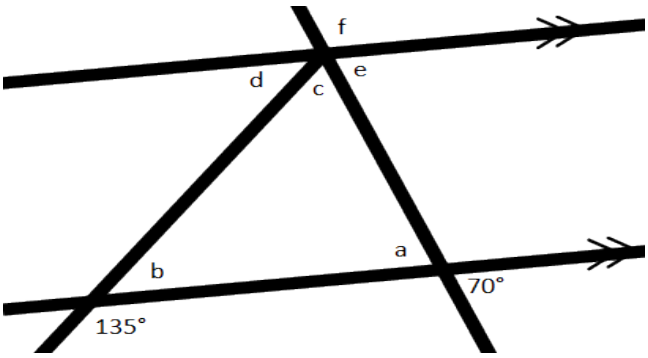
8. If ∠6 measures 35°, what is the measure of ∠3? Justify.

9. If the m∠6 is 30°, find the measure of each numbered angle.

10. Name all of the angles that are congruent to ∠7. Justify.

Use the figure below for problems 11 – 14:

Given line *p* is parallel to line *q*. (The figure may not be drawn to scale.)



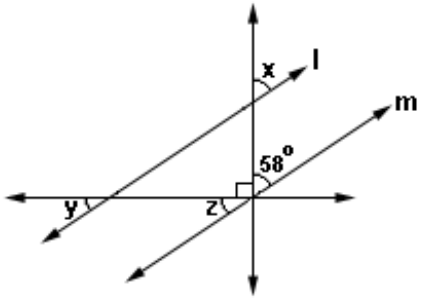
11. What is the measure of angle a? Explain your answer.

12. What is the measure of angle e? Explain your answer

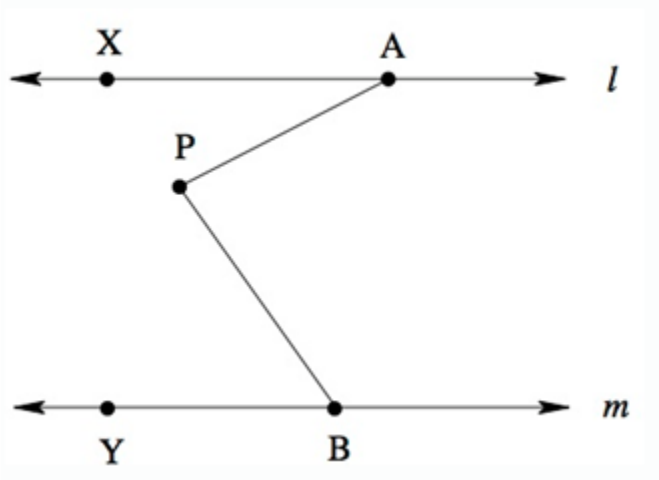
13. What is the measure of angle b? Explain your answer.

14. What is the measure of angle d? Explain your answer.

15. In the figure, if *l* and *m* are parallel lines, what is the value of *y* +z in degrees? (The figure may not be to scale.)



Use the figure below for problems 16 and 17:

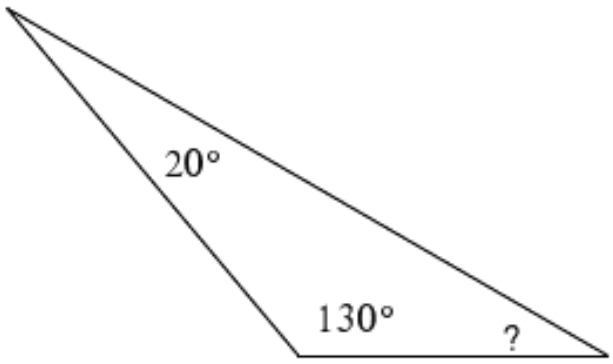


16. In the figure below, lines l and m are parallel. The measure of ∠PAX is 30°, and the measure of ∠PBY is 50°. What is the measure of ∠APB? How do you know?

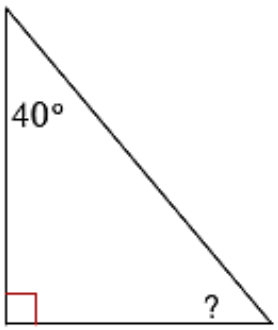
17. In the figure above, lines l and m are parallel. The measure of ∠PAX is 25° and the measure of ∠APB is 100°. What is the measure of PBY?

Objective 2

18. In the figure below, what is the measure of the missing angle?



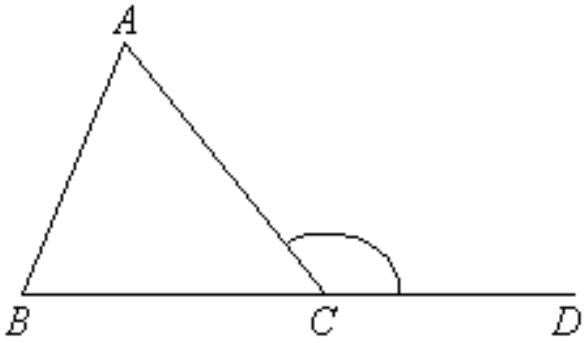
19. In the figure below, what is the measure of the missing angle?



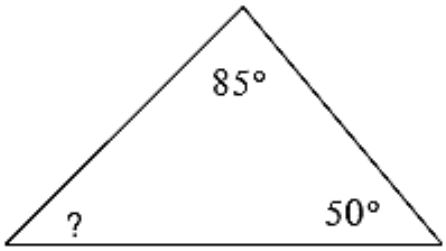
20. The measures of the angles of a triangle are 3x°, 2x°, and 120°. Find the measure of the two unknown angles.

21. The measures of the angles of a triangle are 7x°, 2x°, and x°. Find the measure of each angle of the triangle.

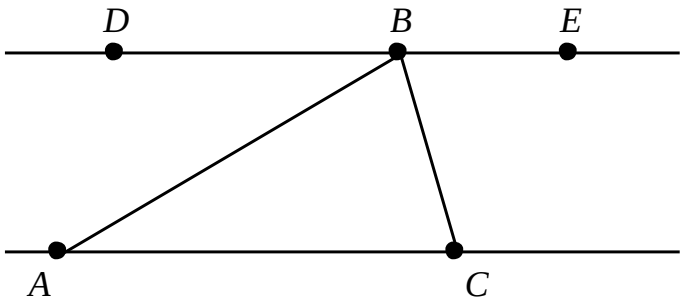
22. If the m∠A = 48° and m∠B= 59°. Find $m\angle ACD$.



23. In the figure below, what is the measure of the missing angle?



24. Bonnie wants to show that the sum of the interior angle measures of a triangle is 180°. In the figure, she draws line *DE* parallel to line *AC*.



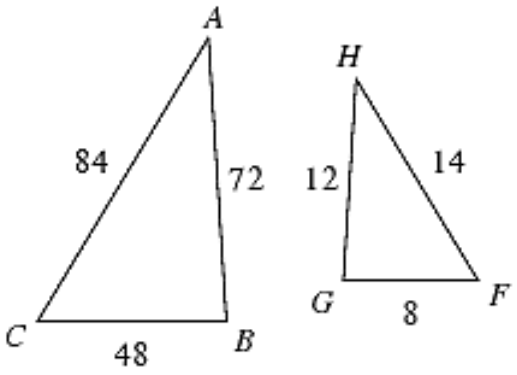
Part A: Complete the statement that Bonnie would like to show:

m∠*BAC* + _____ + _____ = 180°

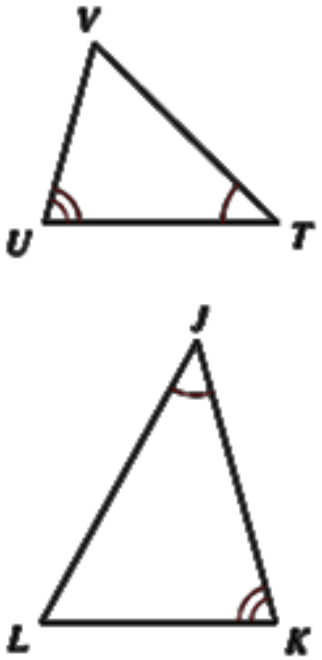
Part B: If m∠ACB is 76° and m∠*BAC* is 48°, find m∠*ABD*.

Objective 3

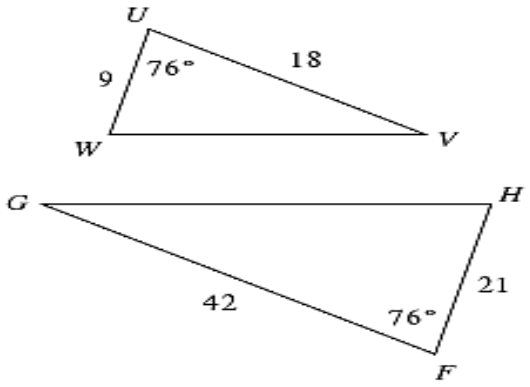
25. Tell whether the triangles below are similar. Why or why not?



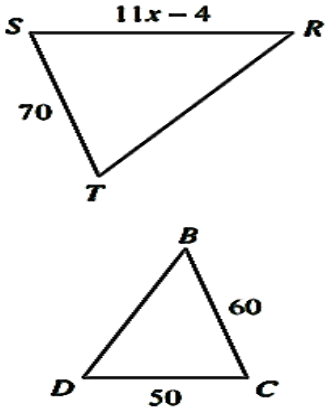
26. Tell whether ΔTUV and ΔJKL could be similar. Why or why not?



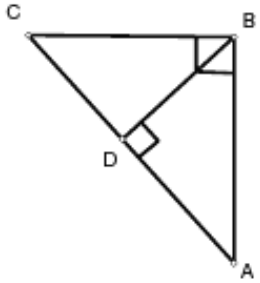
27. Tell whether ΔUVW and ΔFGH could be similar. Why or why not?



28. What is the value of x if ΔRST is similar to ΔBCD?



29. In the figure below, are triangles ABC and ADB similar?



30. A flagpole casts a shadow 25 feet long. At the same time of day, Mr. Jones, who is 5.8 feet tall, casts a shadow that is 7.4 feet long. How tall in feet is the flagpole? Round your answer to the nearest tenth.

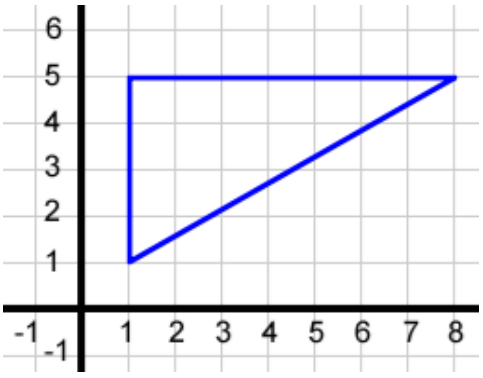
31. Triangles EFG and QRS are similar. The lengths of the sides of EFG are 144, 128, and 112. The length of the smallest side of QRS is 280, what is the length of the longest side of QRS?

Objective 4

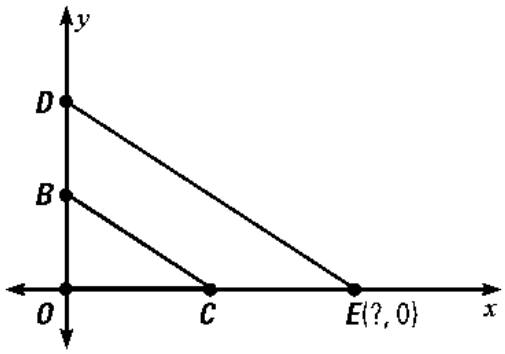
32. Find the slope between the points $(-7,3)$ and $(-4,-1)$.

33. Find the slope between the points $(-3,2)$ and $(5,-13)$.

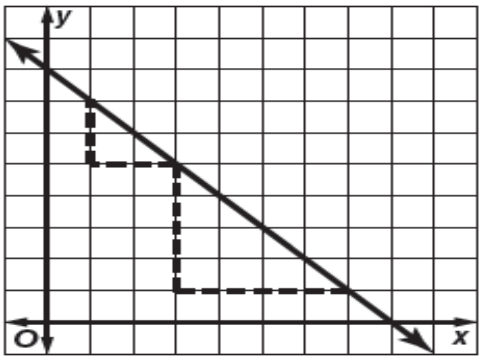
34. In the slope triangle below, what is the slope of the line?



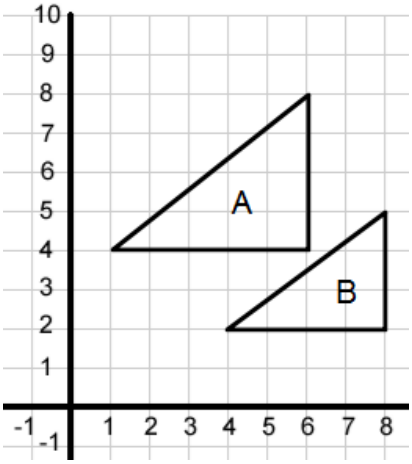
35. Find coordinates for point E so that $\Delta OBC \sim \Delta ODE$.
Given: $O\ (0,0), B\ (0,2), C\ (6,0), D\ (0,8)$



36. What is the ratio of the slopes of the two triangles below?



37. Which slope triangle below can be used to find the slope of the line with the equation $y = \frac{4}{5}x + 3.2$?



38. Are ΔADF and ΔBCE similar triangles? Explain.