

**LEVEL: EMERGING**

1. What special angle pairs are congruent if parallel lines are intersected by a transversal?

Draw a) here

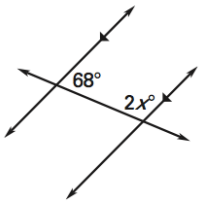
Draw b) here

Draw c) here

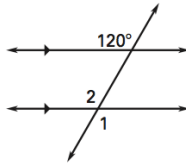
- a) \_\_\_\_\_  
 b) \_\_\_\_\_  
 c) \_\_\_\_\_

Directions: Find the value of x or the indicated angle measure.

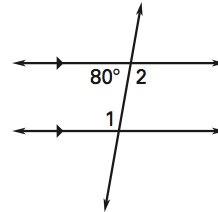
2.



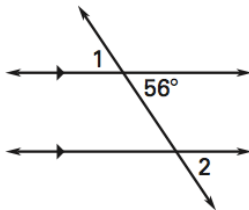
3.



4.



Directions: For 5-9, answer each questions for the diagram below



5. How are angle 1 and the angle whose measure is 56 degrees related?

6. How are angle 1 and angle 2 related?

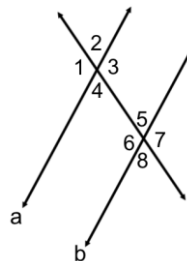
7. What is the measure of angle 1?

8. How are angle 2 and the angle whose measure is 56 degrees related?

9. What is the measure of angle 2?

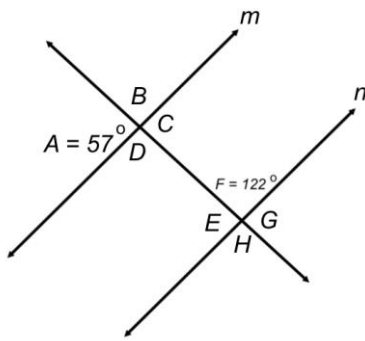
**LEVEL: PROFICIENT**

10. If  $m\angle 1 = 146^\circ$ , what must be the sum of the angles 4 and 6 be so lines  $a$  and  $b$  are parallel?



11. In the diagram from number 10, list all pairs consecutive interior angles.

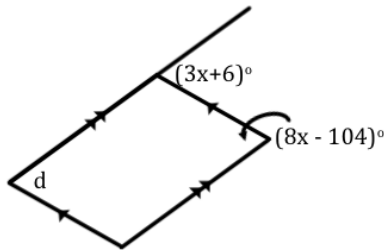
LEVEL: PROFICIENT (cont.)



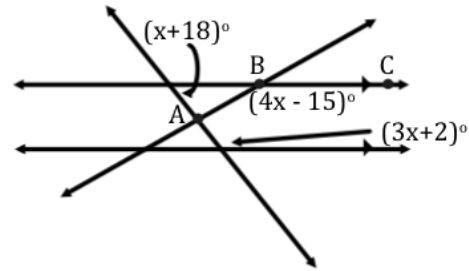
12. Are lines  $m$  and  $n$  parallel? Justify your answer.

LEVEL: MASTERY

13. Find the value of  $d$ .



14. Find the value of  $m\angle ABC$ .



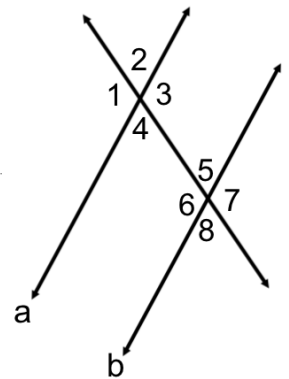
Directions: For 15-20: Use the diagram to answer the questions

15.  $m\angle 2 = 45^\circ$  and  $m\angle 7$  is three times  $m\angle 4$ . Are the lines  $a$  and  $b$  parallel. Why or why not?

16.  $\angle 2$  measure  $68^\circ$ . What must the measure of angle 5 be so the lines  $a$  and  $b$  are parallel?

17.  $\angle 3$  measure  $100^\circ$ . What must the measure of angle 8 be so the lines  $a$  and  $b$  are parallel?

18. If  $m\angle 3 = 3x^2 - 2$  and  $m\angle 6 = -3x^2 + 19x - 5$ , what must  $m\angle 5$  be so the lines  $a$  and  $b$  are parallel?



19. Name all the pairs of alternate exterior angles.

20. Name all of the angles that are congruent to  $\angle 3$ .