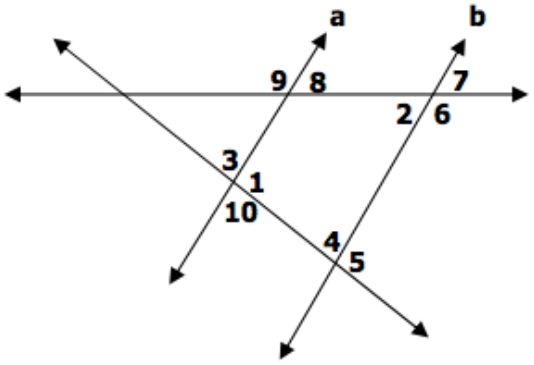
Geometry Honors
Unit 5: Parallel and Perpendicular Lines
5.1-5.2 Review

Mathematician: _____
Period:_____

5.1 Parallel Lines and Angle Relationships

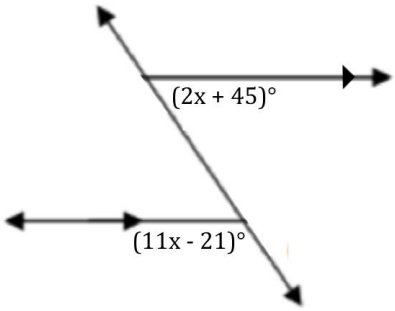
Directions: Given: $a \parallel b, m\angle 1 = 97°$, and $m\angle 2 = 53°$. Find the measures of the missing angles or identify the angle relationship.



1) $\angle 4$	2) $\angle 5$
3) $\angle 7$	4) $\angle 8$
5) Corresponding to $\angle 5$	6) Alternate interior angle to $\angle 2$
7) Consecutive interior to $\angle 4$	8) Alternate exterior angle to $\angle 9$

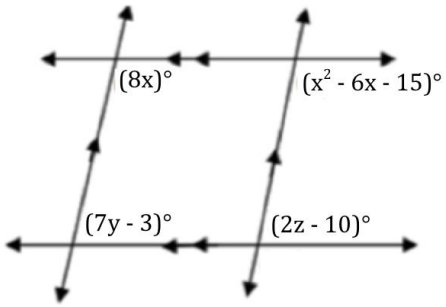
Directions: Find the missing values of x, y, or z.

9)



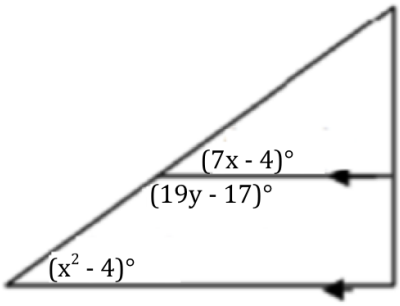
$x =$ _____

10)



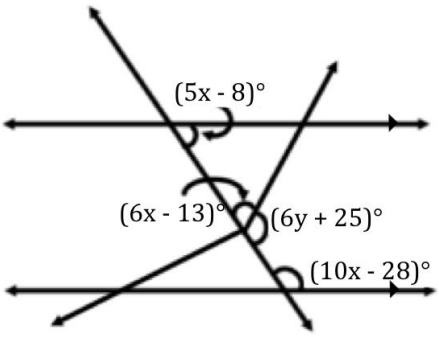
$x =$ _____ $y =$ _____ $z =$ _____

11)



$x =$ _____ $y =$ _____

12)



$x =$ _____ $y =$ _____

5.2 Apply and prove statements using perpendicularity theorems

13) Đ1 and Đ2 are congruent complementary angles. Which of the following must be true? (Select all that apply!)

(A) $Đ1 + Đ2 = 90°$
(B) $Đ1 = 60°$
(C) $Đ2 = 45°$
(D) Đ1 & Đ2 are a linear pair.
(E) $\angle 1$ & $\angle 2$ are vertical angles.

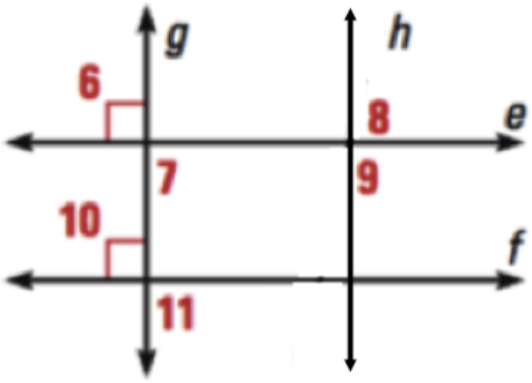
14) Đ1 and Đ2 are adjacent. Đ3 is complementary to Đ2. Which of the following must be true? (Select all that apply!)

(A) $Đ1 + Đ3 = 90°$
(B) $Đ2 + Đ3 = 90°$
(C) $Đ1 = 45°$
(D) Đ2 & Đ3 could form a linear pair
(E) Đ2 & Đ3 cannot form a linear pair

15) If line *l* is parallel to line *m*, line *r* is perpendicular to line *l*, and line *s* is perpendicular to line *m*, then which of the following must be true? (Select all that apply!)

(A) $r \perp m$
(B) $r \parallel s$
(C) $r \perp s$
(D) $r \cong s$
(E) $l \parallel s$

Directions: Given the following diagram, determine if the following statements are true. Explain your reasoning.



16) $e \parallel f$

17) $\angle 7 \cong \angle 10$

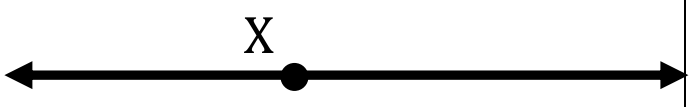
18) $\angle 7 \cong \angle 9$

19) $\angle 6 \cong \angle 9$

20) $\angle 6 \cong \angle 11$

21) $\angle 7$ is supplementary to $\angle 10$

22) Construct a <u>perpendicular line</u> that passes through a given point on the line.



23) Construct a <u>line parallel</u> to a given line through a specific point.