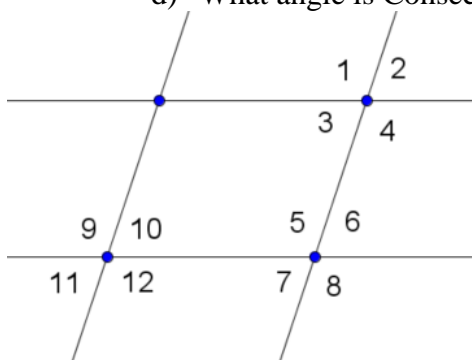


1. What is the difference between a theorem and a Postulate?
2. In the figure below, it is given that there are two pairs of parallel lines.
 - a) What angle is Alternate Interior to $\angle 4$?
 - b) What angle is Vertical to $\angle 4$?
 - c) What angle is Alternate Exterior to $\angle 1$?
 - d) What angle is Consecutive Interior to $\angle 4$?



3. State the Corresponding Angles Postulate: IF _____

THEN _____.

4. The “Converse” of the Corresponding Angles Postulate is also true: State the converse of the Corresponding Angles Postulate. IF _____

THEN _____.

5. In fact the converse of each of the theorems we talked about in class about special angle pairs formed by parallel lines are also true. State the Converse of the Alternate Interior Angles Theorem.

IF _____

THEN _____.

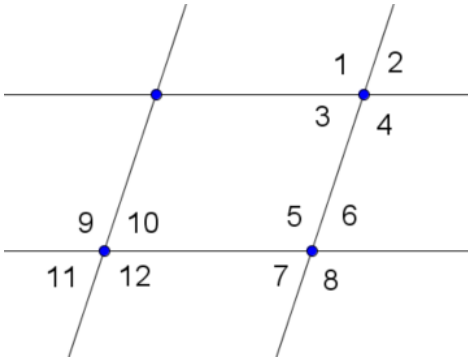
6. When a theorem (or Postulate) and its converse are both true, the theorem or Postulate is stated another way.

“Alternate Exterior angles are congruent if and only if they are formed by a transversal cutting a pair of parallel lines.”

State the Corresponding Angles Postulate as an “if and only if” postulate.

_____ if and only if _____

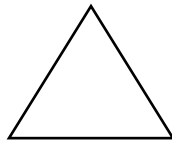
7. Two of the special angle pair relationships we learned in class only require a pair of intersection lines (do NOT require parallel lines). What are these two special angle pairs?



8. In the figure above there are two pairs of parallel lines. $m\angle 1 = 110^\circ$. Fill in the rest of the angle measures.

- a) $m\angle 2 = \underline{\hspace{2cm}}$ b) $m\angle 4 = \underline{\hspace{2cm}}$ c) $m\angle 6 = \underline{\hspace{2cm}}$
 d) $m\angle 5 = \underline{\hspace{2cm}}$ e) $m\angle 3 = \underline{\hspace{2cm}}$ f) $m\angle 10 = \underline{\hspace{2cm}}$

9. Pictures of triangles are easier to evaluate than if just angles and sides are given. Usually the standard triangle is $\triangle ABC$. The length of the side opposite of angle A is “a”. The length of the side opposite angle B is “b” and so forth. Label the triangle below with the correct labeling of the standard triangle (three vertices and three side lengths).



10. a) Draw two triangles ($\triangle ABC$ and $\triangle XYZ$), with correct labeling (and “tic” marks to indicate congruent angles/sides) for the following situation: $\angle A \cong \angle Z$, $c = x$, $\angle B \cong \angle Y$
 b) If the two triangles are congruent write a congruence statement.
 c) If the two triangles are congruent, which theorem/Axiom supports your conclusion?



11. $a = 6$, $b = 8$. What is distance ‘c’ so that $\triangle ABC$ is a right triangle.

12. Write the solution to the following inequality in either “AND” or “OR” form: $(x - 5)(x + 2) < 0$

13. Shade the correct region(s) of a number line to indicate the solution to problem #12 above.