Angles formed when a transversal cuts two parallel lines

Α.	Choose the correct answer:	
	1. When a transversal cuts two parallel lines, how many angles are formed?	
	a) 4	b) 6
	c) 8	d) 10
	2. If two parallel lines are cut by a transversal, each pair of corresponding is	
	a) supplementary	b) equal
	c) adjacent	d) unequal
	3. Alternate interior angles are	
	a) always unequal	b) always equal
	c) always supplementary	d) always right angles
	4. If one angle formed by a transversal is 60°, then its vertically opposite ar	
	a) 60°	b) 120°
	c) 30°	d) 90°
	5. Consecutive interior angles on the same side of the transversal are	
	a) equal	b) supplementary
	c) right angles	d) vertically opposite
Β.	 Write the Missing Terms to Complete the Sentences: 1. When a transversal cuts two parallel lines, pairs of angles are formed. 2. Vertically opposite angles are always 3. If one corresponding angle is 70°, the other corresponding angle is 	
	 Alternate interior angles lie sides of the transversal. 	the parallel lines and on

5. Consecutive interior angles are also called ______ angles.

C. Mark each sentence with a True (✔) or False (X):

- 1. Alternate interior angles are supplementary when the lines are parallel.
- 2. Vertically opposite angles are always equal.
- 3. Corresponding angles lie on the same side of the transversal.
- 4. There are four pairs of corresponding angles when a transversal intersects two parallel lines. _____
- 5. If two lines are not parallel, alternate interior angles are still equal.

D. Figure out the answers to these questions:

- 1. If one of the alternate interior angles is 85°, find all eight angles formed by the transversal.
- 2. Draw two parallel lines cut by a transversal. Label all angle pairs: corresponding, alternate interior, alternate exterior, and consecutive interior.
- 3. Prove that corresponding angles are equal when a transversal cuts two parallel lines.
- 4. If one angle is 3x and its adjacent angle on the same line is x, and both form a straight line, find the value of x.
- 5. Two angles on opposite sides of the transversal and outside the parallel lines are 65° and 65°. Name the pair and explain why they are equal.

E. Challenge yourself with these questions:

- 1. If a transversal cuts two parallel lines and one of the angles is 110°, find all the remaining angles.
- 2. Draw a pair of parallel lines with a transversal and identify one pair of each angle type.
- 3. In the given figure, angle $A = 75^{\circ}$. Find all the other seven angles formed.
- 4. A transversal makes an angle of 120° with one of the parallel lines. Identify all equal angle pairs and their measures.
- 5. Construct a diagram to show how a transversal creates 8 angles and name each angle pair type.

F. In the given figure, m||n, find:

A. ∠p + ∠q = _____.

B. If $\angle r = 45^\circ$, then $\angle s =$ _____



G. In the given figure, XY || ST and I is a transversal. Find $\angle x$.

