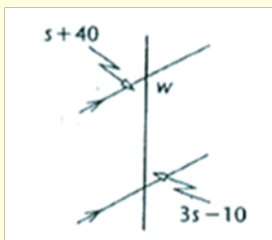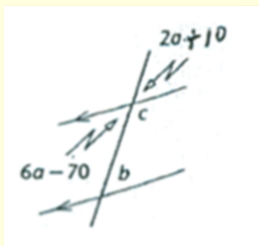# Angles in Parallel Lines - using algebra

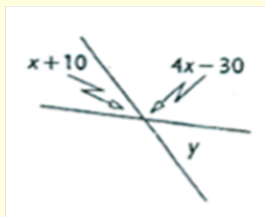1.

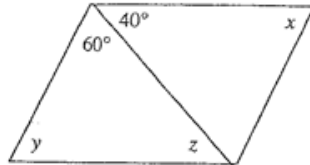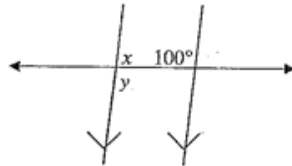2.

3.

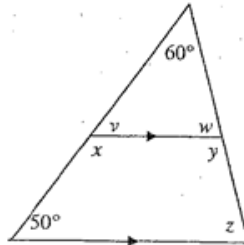## Practice – Angles Formed by Parallel Lines

1.   Calculate the values of x, y, and z in degrees for the following **parallelogram**.
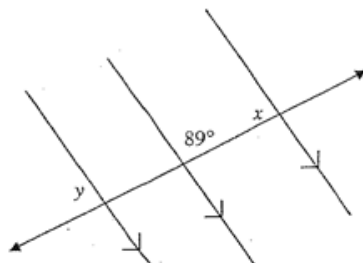

2.   Calculate the values of x and y in degrees. The two vertical lines are parallel.
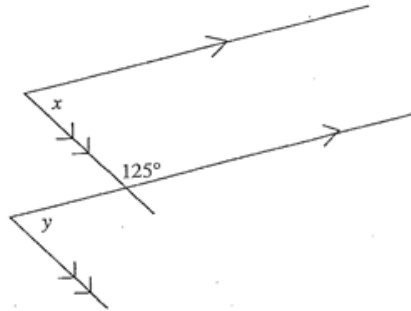

3.   Determine the values of v, w, x, y, and z in degrees. The horizontal lines are parallel.
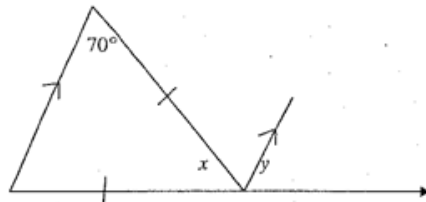

4.   Determine the values of x and y in degrees. The transversal passes through three parallel lines.
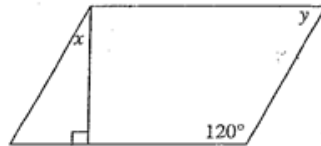
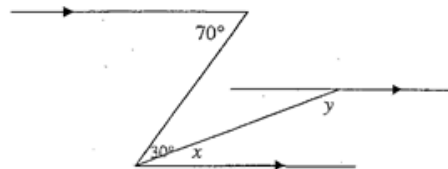5.   Calculate the values of x and y in degrees.

125°

6.   Determine the values of x and y in degrees for the following. The indicated sides are equal in length.
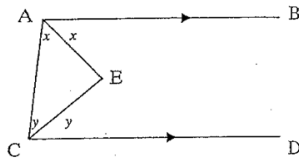
70°

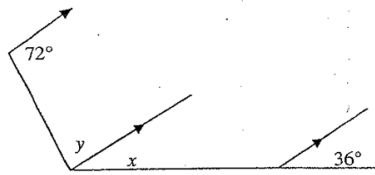7.   Determine the values of x and y in degrees for the following **parallelogram**.

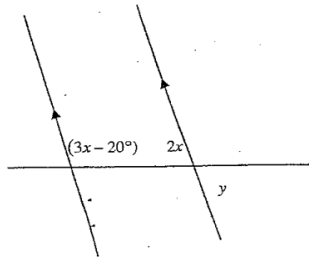120°

8.   Calculate the values of x and y in degrees.

70°

30° x

9.   In the following diagram, AB ∥ CD. AE is the **bisector** of ∠BAC and CE is the
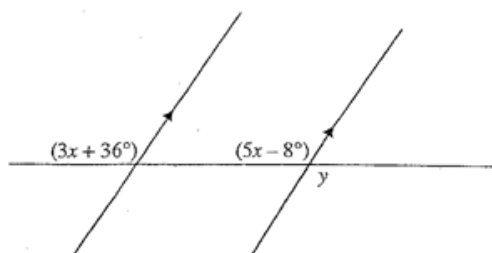   **bisector** of ∠ACD.
      Prove that ∠AEC = 90°.

10.   Calculate the values of x and y in degrees.

11.   Determine the values of x and y in degrees.

12. Calculate the values of x and y in degrees.

13. $\triangle ABC$ is an isosceles triangle with $AB = AC$. D is a point in AB, and E is a point in AC, such that $AD = AE$. Prove that DE is parallel to BC. A diagram is required.