

2. Calculating Angles

- Using the fact that base angles are equal.
- Applying the triangle sum theorem (sum of interior angles = 180°).

3. Proving Geometric Properties

- Demonstrating that two sides are equal.
- Showing that base angles are congruent.

4. Applying Coordinate Geometry

- Finding side lengths and angles using coordinate formulas.
- Plotting triangles and calculating slopes and distances.

Step-by-Step Solutions to Typical Isosceles Triangle Problems

To illustrate effective problem-solving, let's examine some typical practice questions and their solutions.

Example 1: Find the Missing Side

Problem: In an isosceles triangle, the two equal sides each measure 8 cm. The base angles measure 40° . Find the length of the base.

Solution:

- Identify knowns:
 - Equal sides: 8 cm
 - Base angles: 40° each
- Calculate the vertex angle:

Using the triangle sum theorem:

