

Lab. No. (2)

Plane Surveying
Laboratory

Remote Sensing
Department
2nd Stage

Title

Chaining Across
Obstacles

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Chaining Across Obstacles

Objective:

To **measure distance** between **two points** by chaining across different types of **Obstacles** encountered by **indirect method**.

Chaining Across Obstacles

OBSTACLES TO CHAINING ARE OF TWO KINDS

1. Obstacles to **chaining** but **not ranging** .

a) Pond



b) River



2. Obstacles to both **chaining** and **ranging** .

Ex:- Building



Chaining Across Obstacles

1- Obstacles to chaining but not ranging:

a) Pond : it is possible to **chain round** the obstacle.

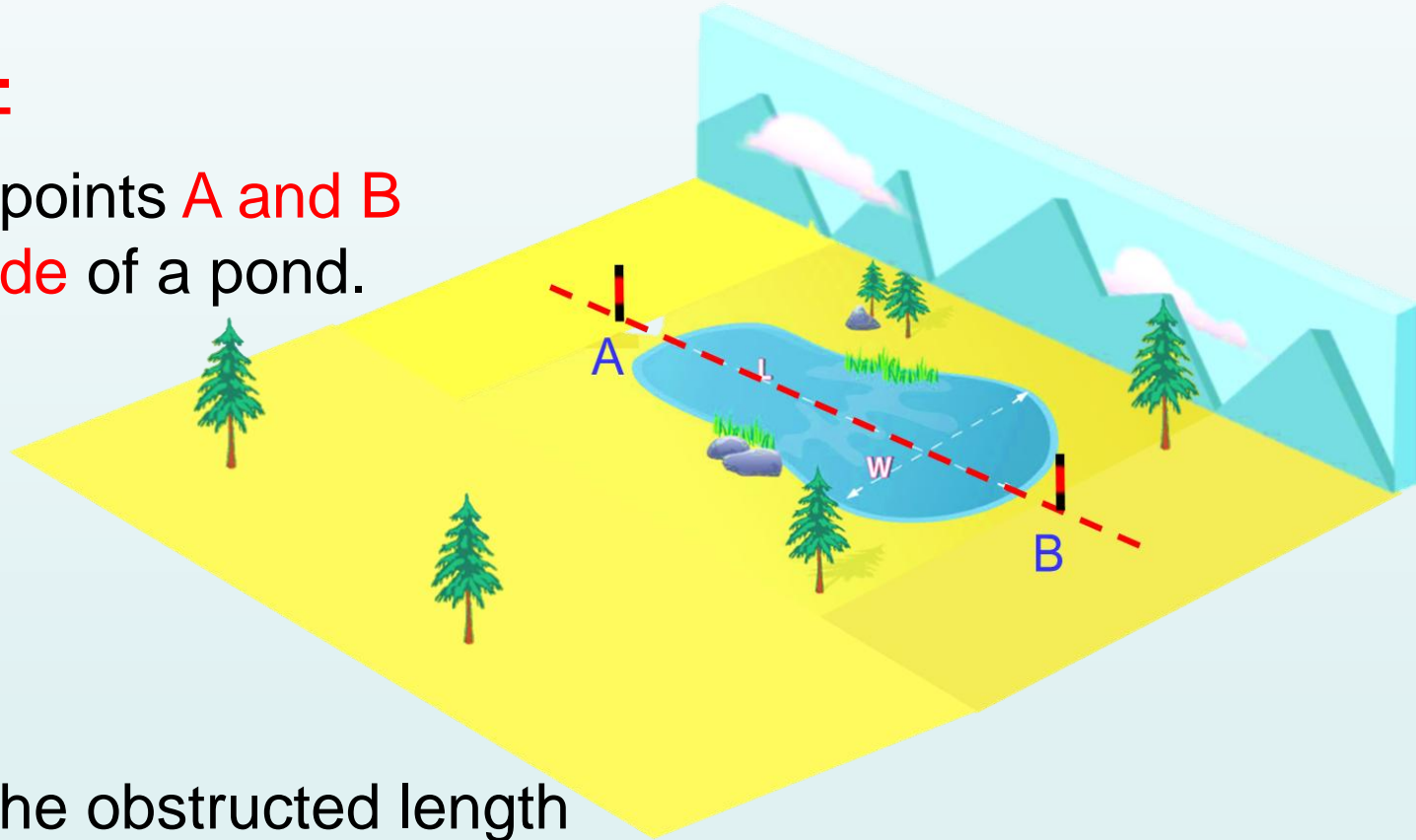


Method To Determine Pond Length

We make two method to determine pond length

Method (a):-

1. Select two points **A** and **B** on either **side** of a pond.

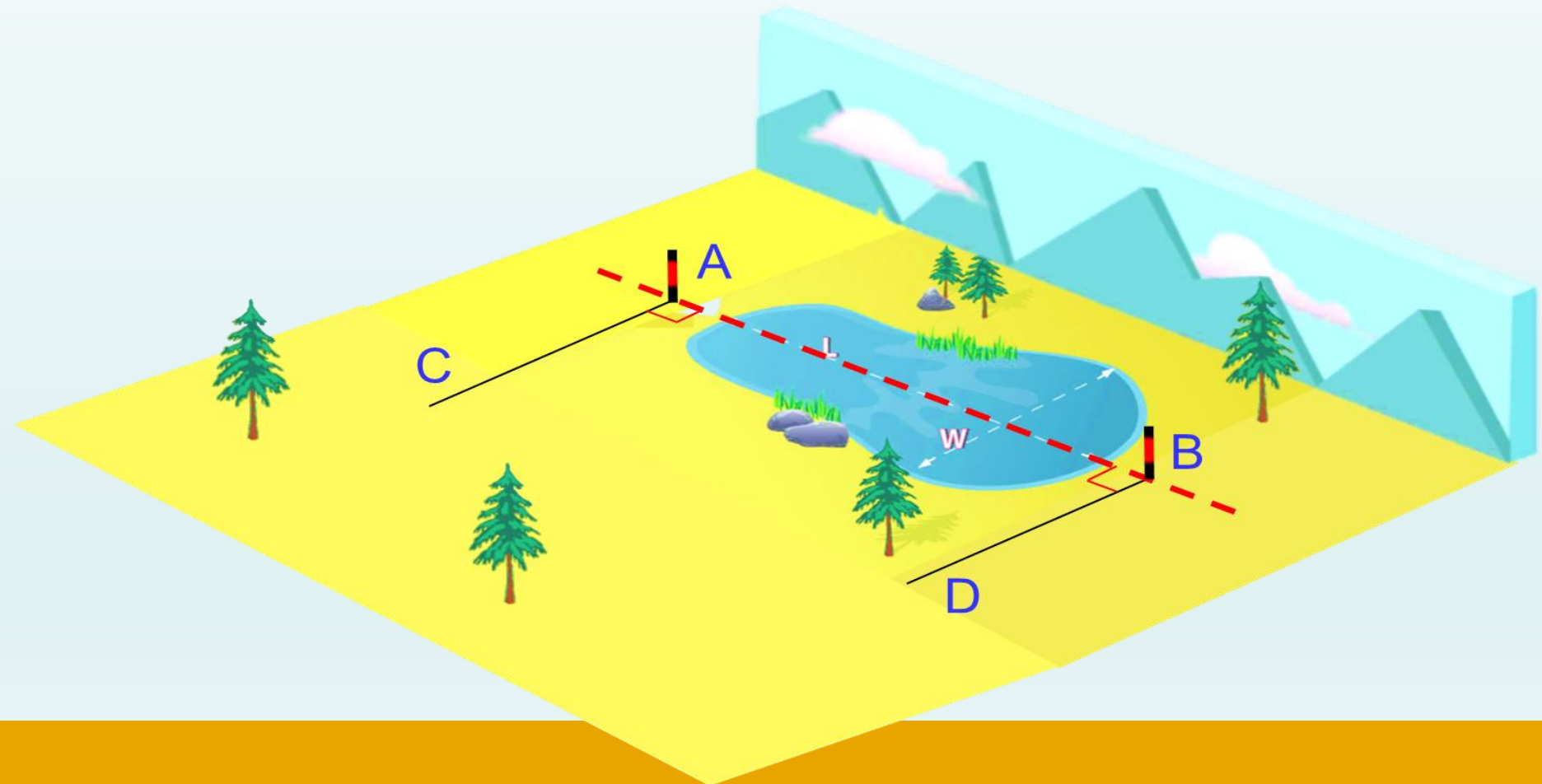


2. Let **AB** be the obstructed length

Method To Determine Pond Length

Method (a)

3. **Set out** Two equal perpendicular **AC** and **BD** as shown in figure are made at A and B and chaining is done along CD.

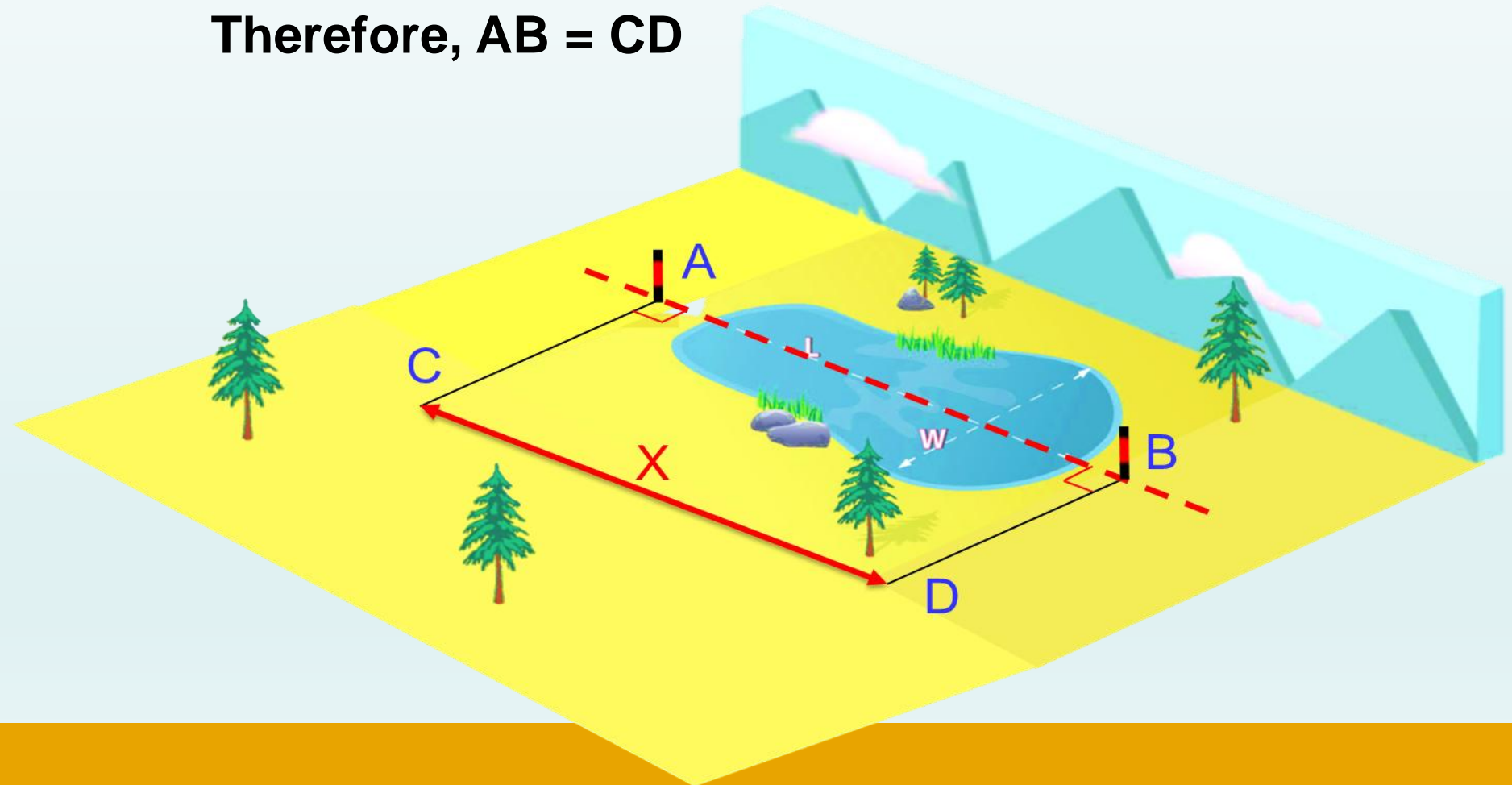


Method To Determine Pond Length

Method (a)

4. The required **obstructed length AB** is equal to the measured distance **CD**.

Therefore, $AB = CD$

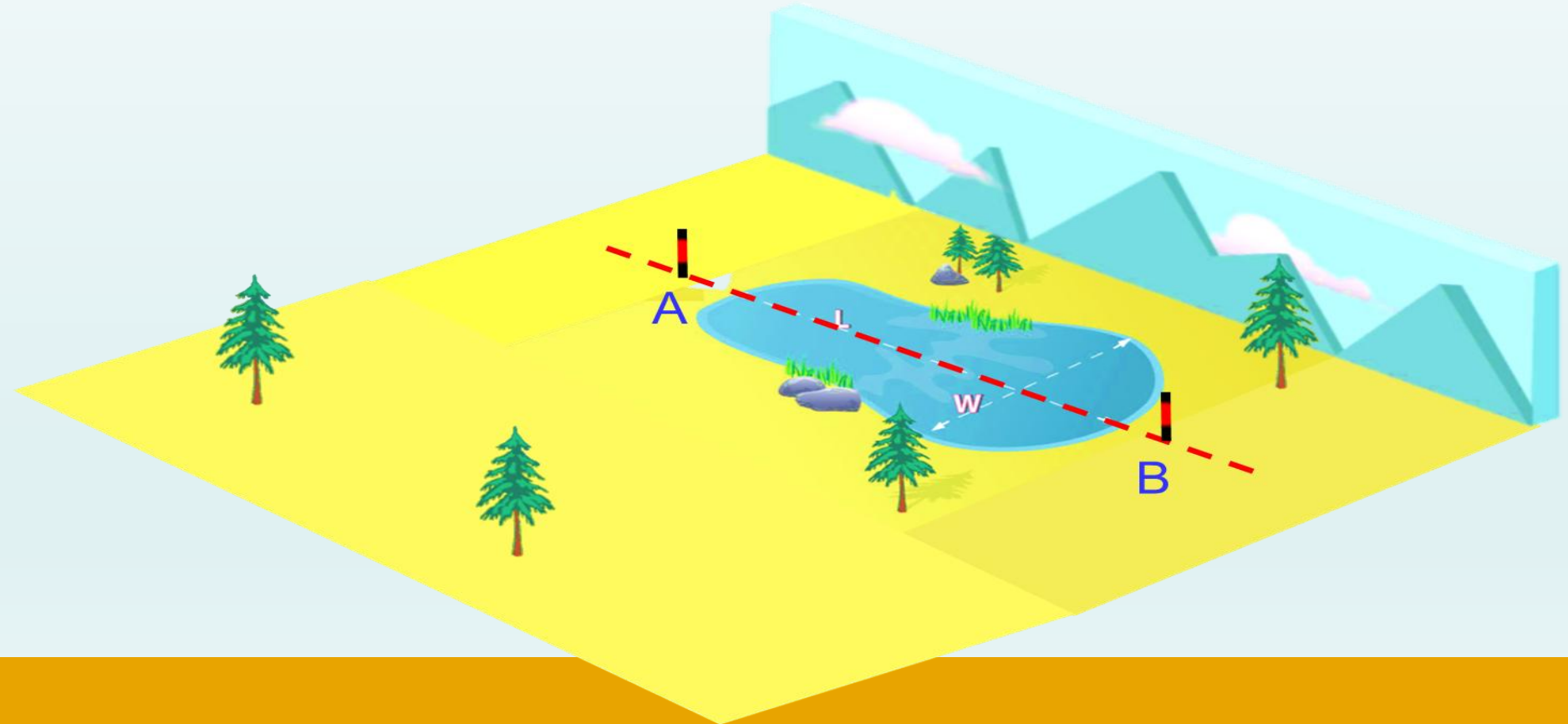


Method To Determine Pond Length

Method (b)

Method (b);-

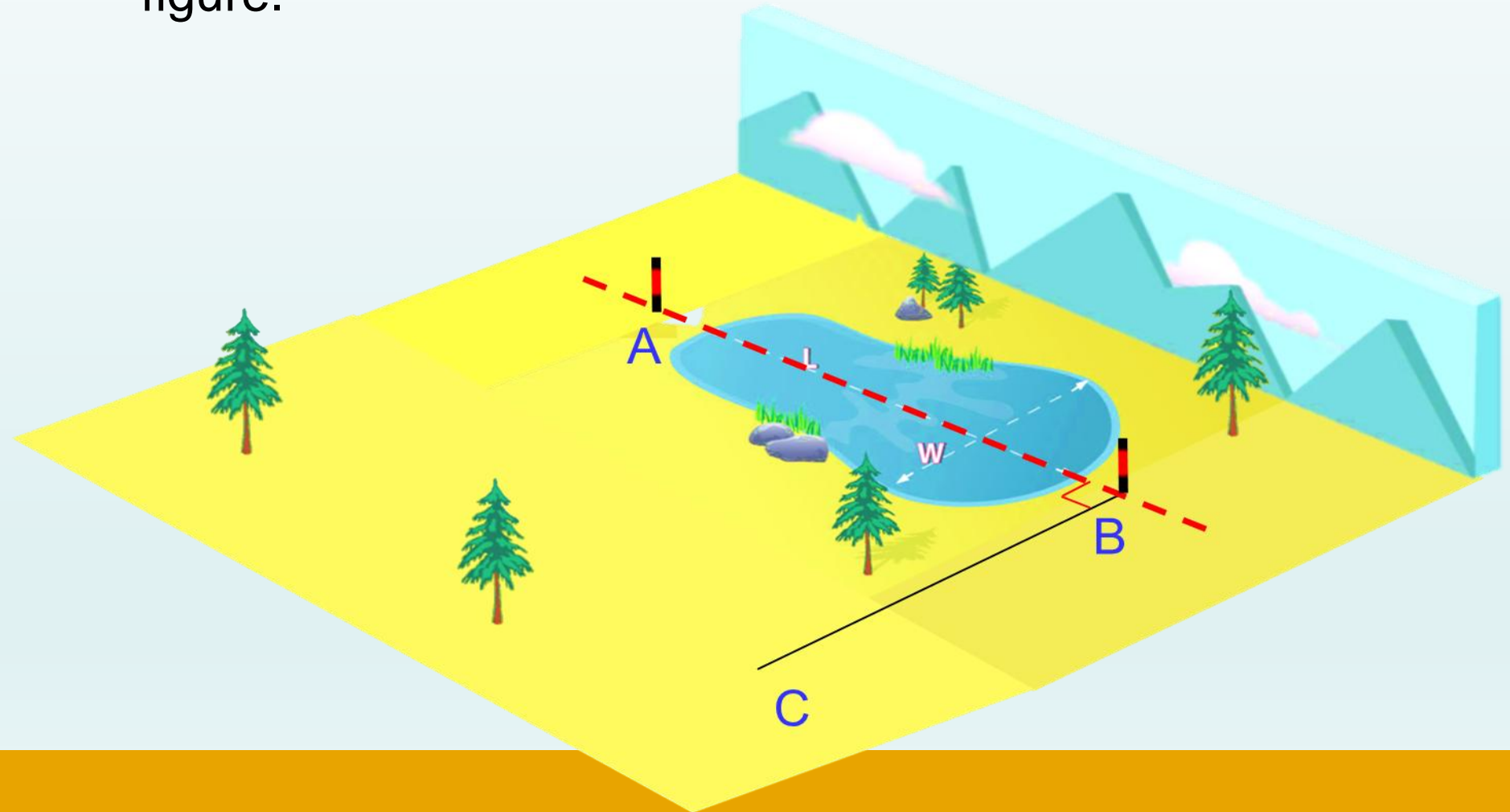
1. Select two points **A and B** on either **side** of a pond.
2. Let line **AB** be the **obstructed length**



Method To Determine Pond Length

Method (b)

3. Set out **BC** perpendicular to chain line (**AB**) as shown in figure.

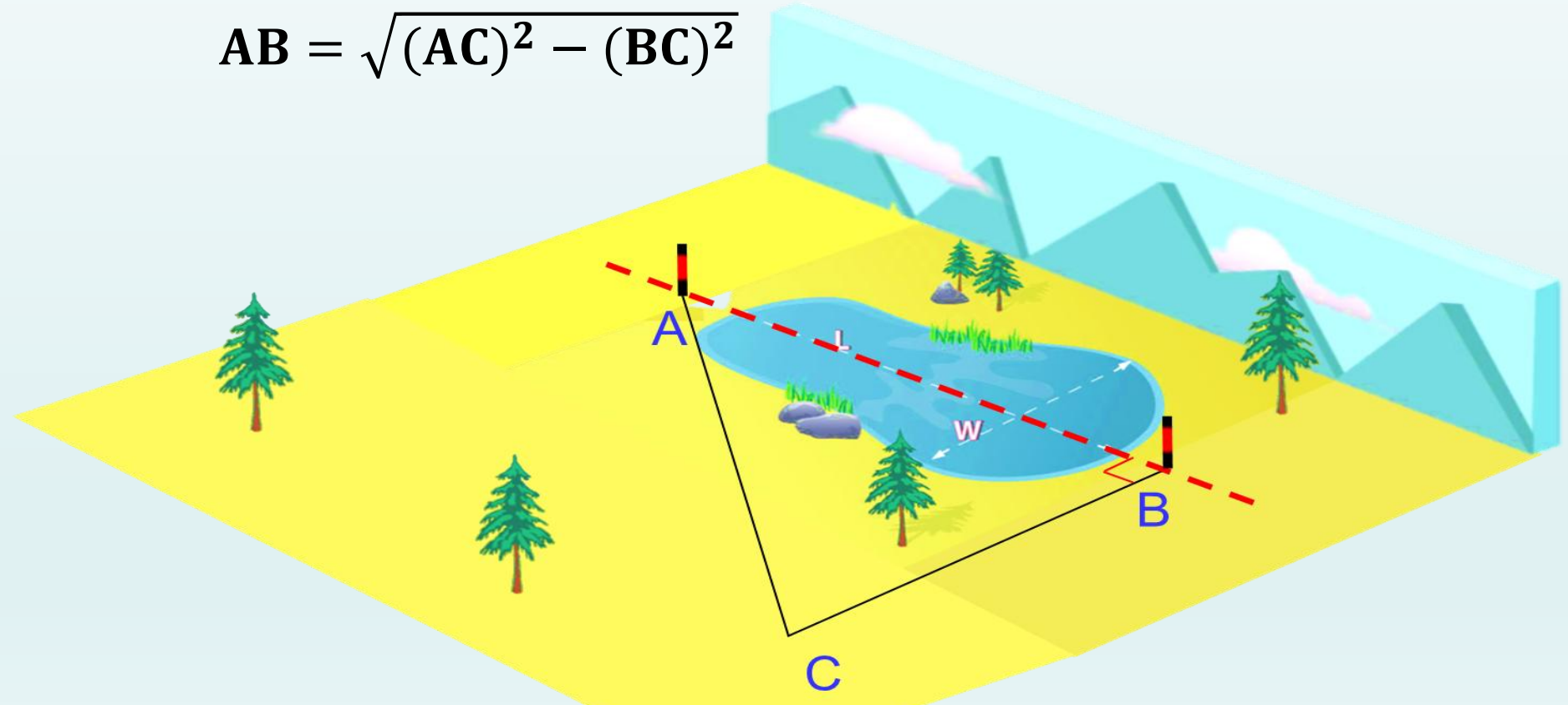


Method To Determine Pond Length

Method (b)

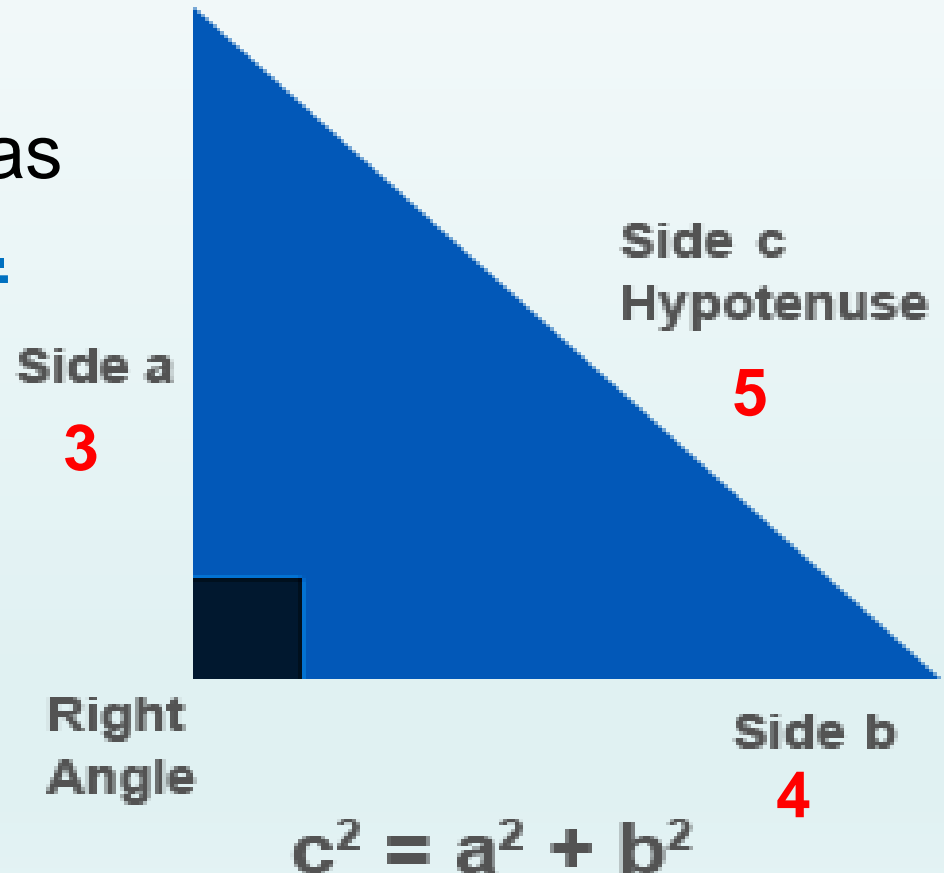
4. Measure **AC** and **BC**
5. The length **AB** is calculated from the relation

$$AB = \sqrt{(AC)^2 - (BC)^2}$$



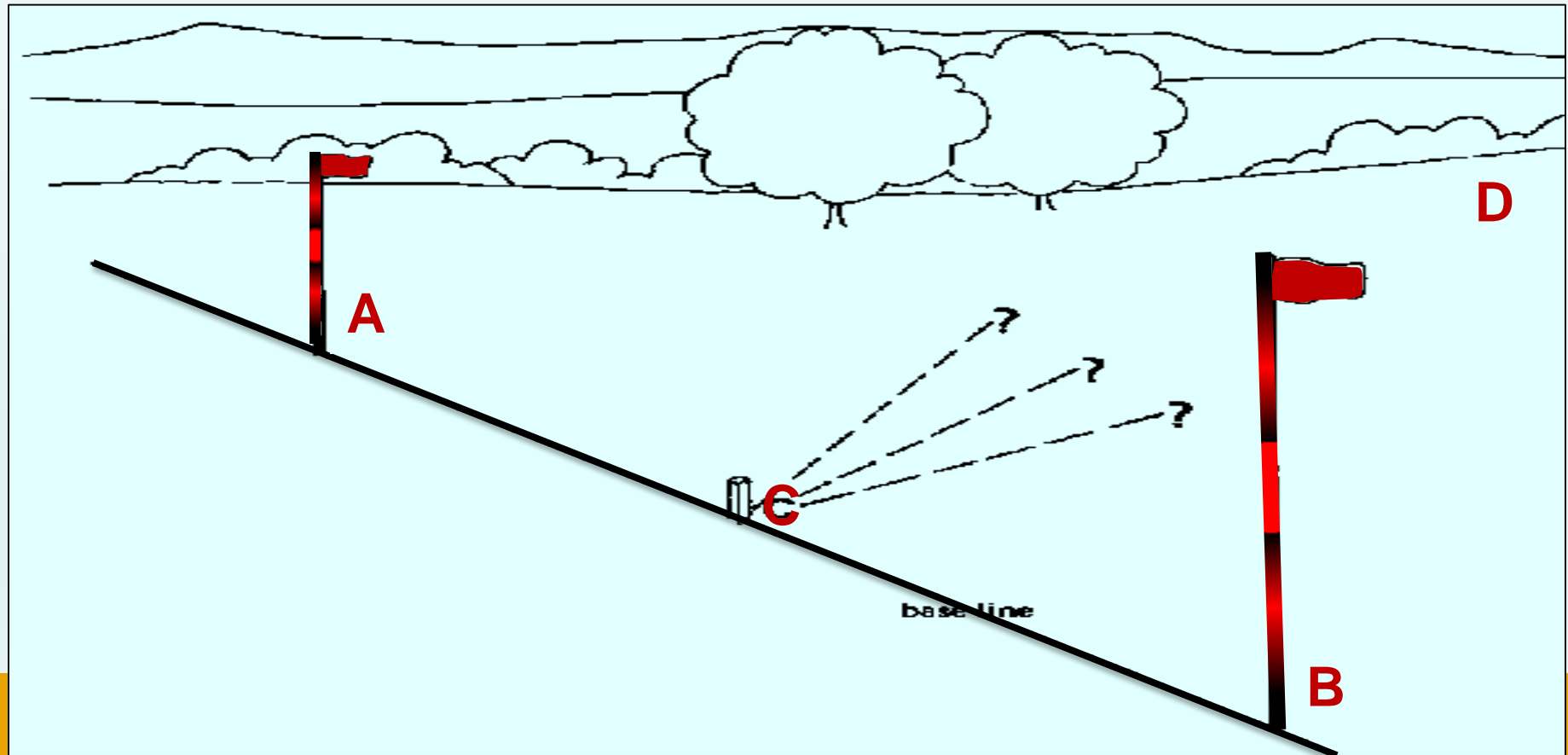
Setting Out a Line at Right Angle

One of the simplest ways to **Setting Out Right Angle** is known as 3:4:5 triangle method.



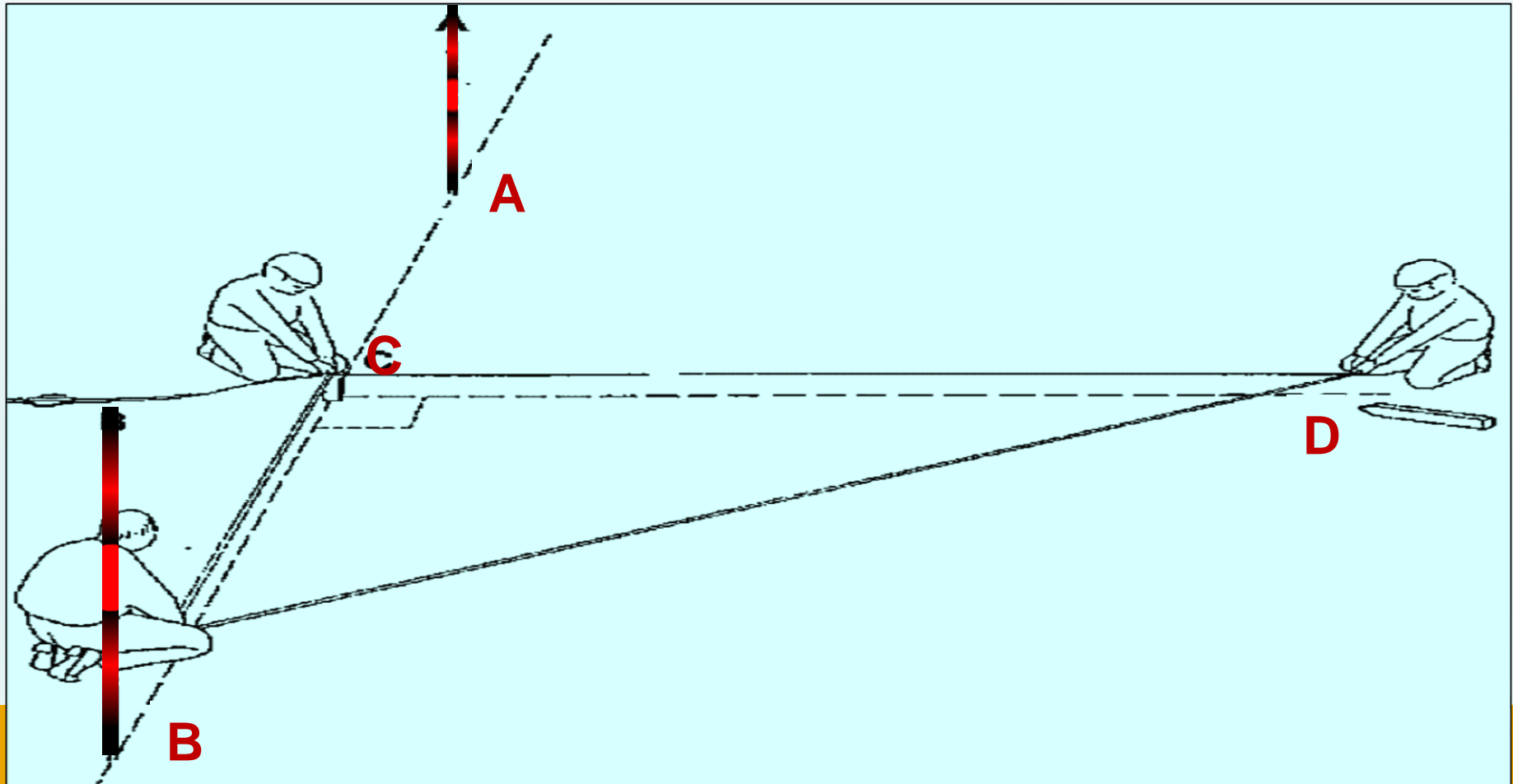
Setting Out a Line at Right Angle

1. The base line is defined by the poles (A) and (B) and a right angle has to be set out from peg (C). Peg (C) is on the base line. That is Show In (Fig. 1)



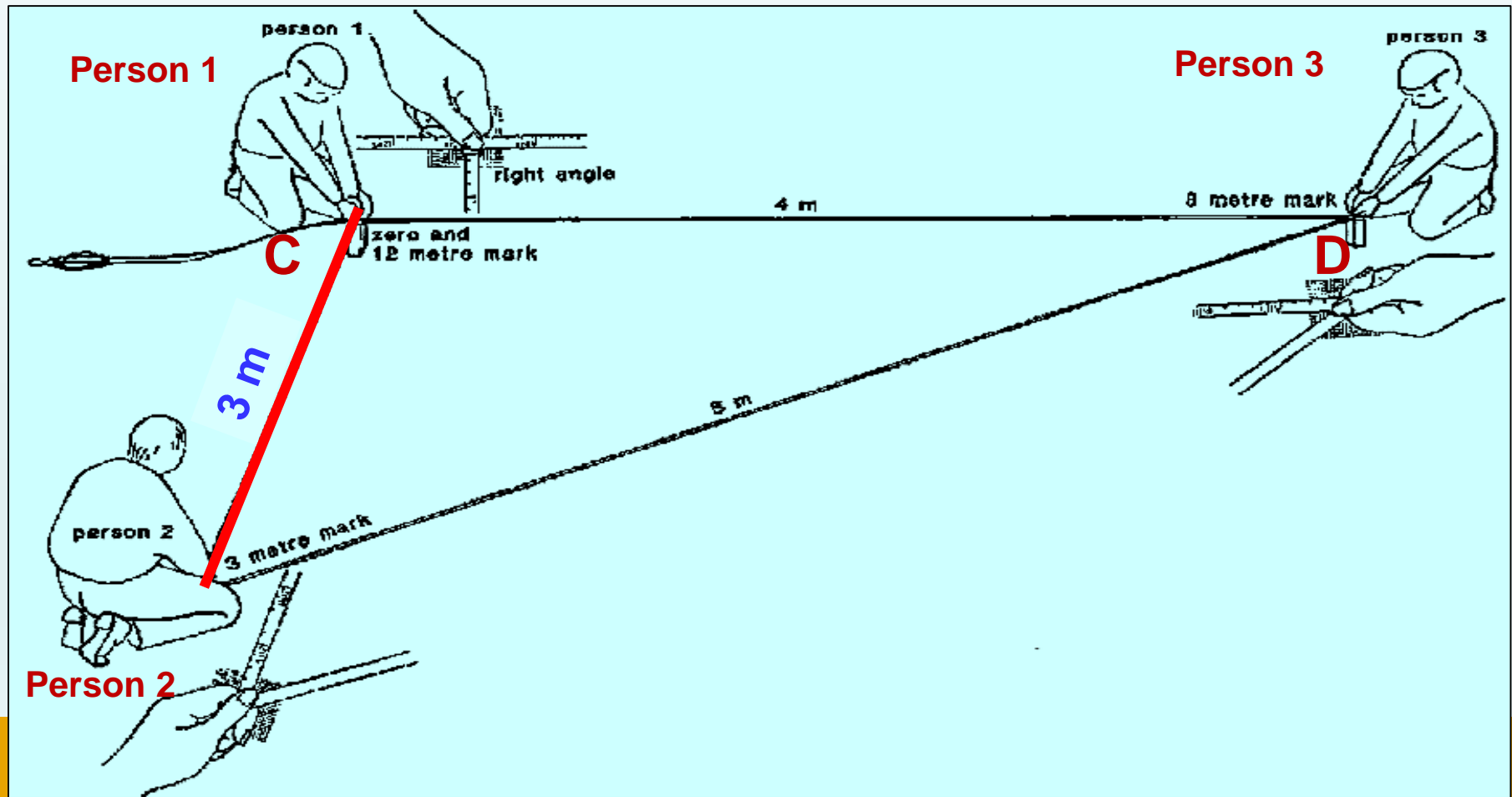
Setting Out a Line at Right Angle

2. The first person holds together, the zero mark and the 12 meter mark of the tape on top of peg (C).



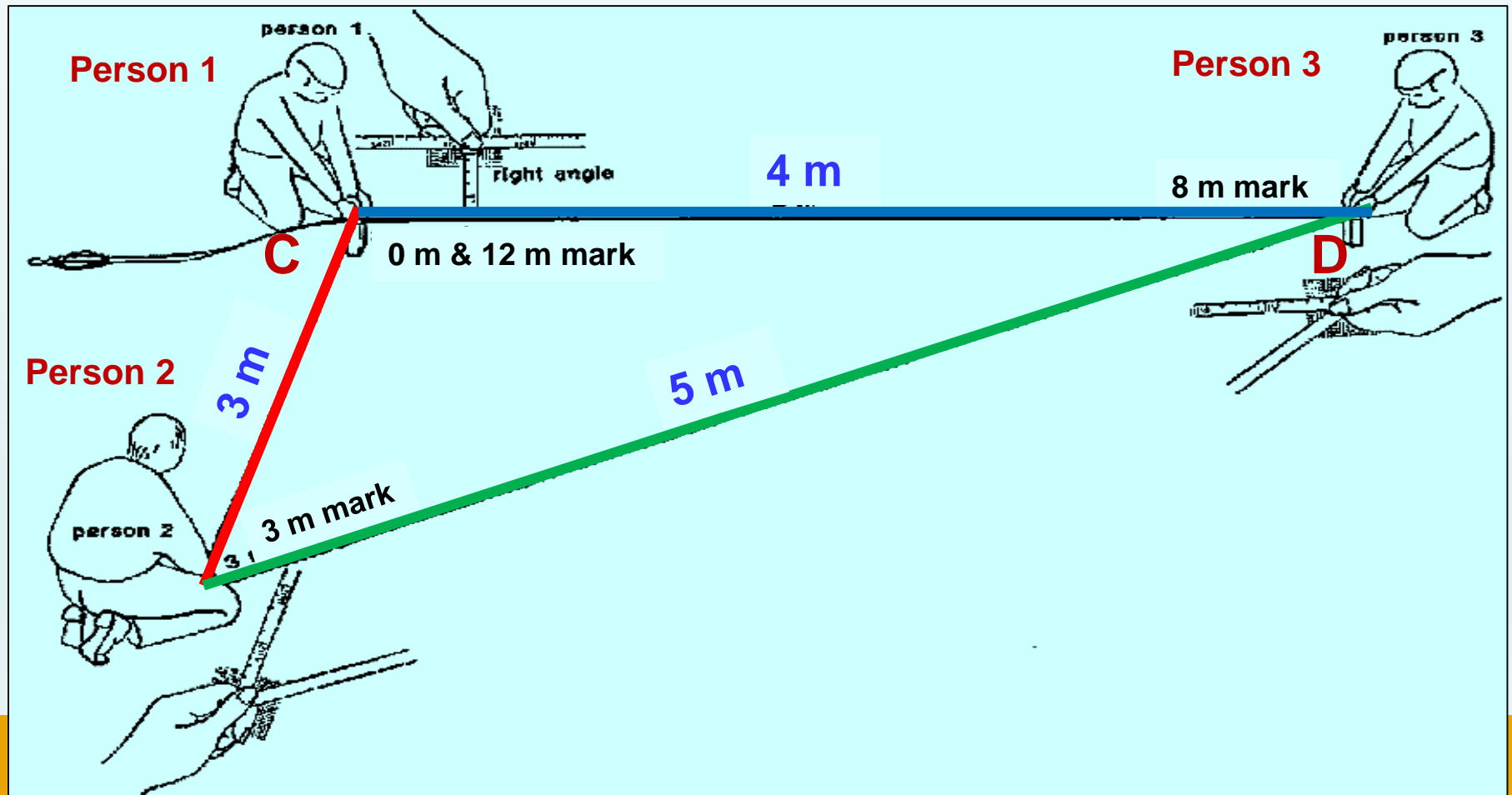
Setting Out a Line at Right Angle

3. The second person holds the 3 meter mark of the tape in line with pole (A) and peg (C)



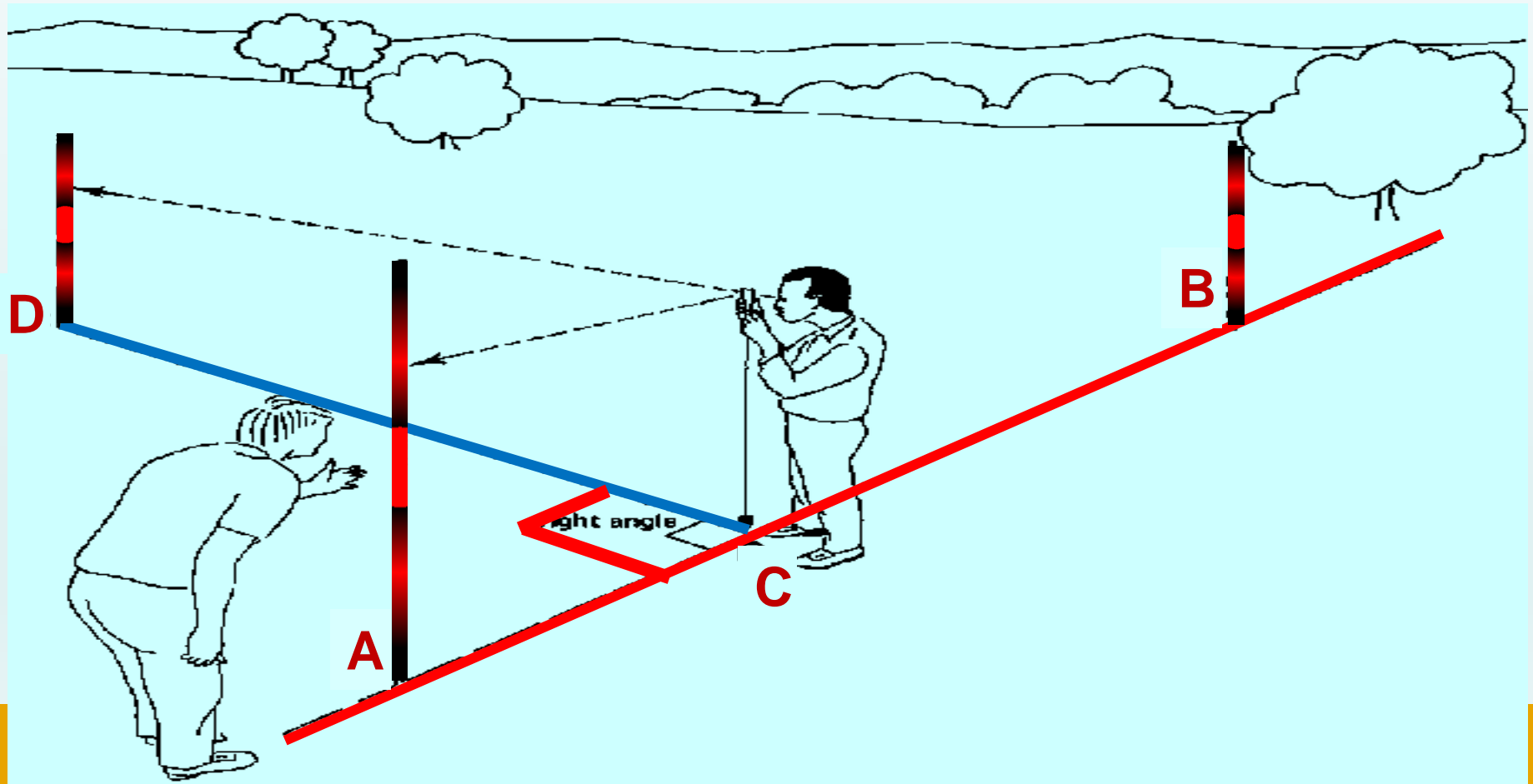
Setting Out a Line at Right Angle

4. The third person holds the 8 m mark and, after stretching the tape, he places a peg at point (D) that is Show In Figure.



Setting Out a Line at Right Angle

The **angle** between the line connecting peg **(C)** and peg **(D)** and the base **line (AB)** is a **Right Angle** that is Show In Figure



Setting Out a Line at Right Angle

