Measure line segment
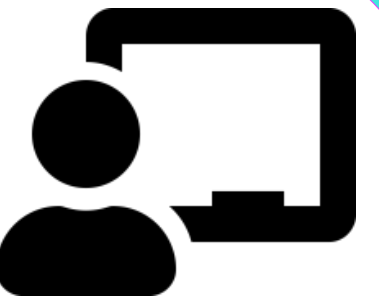
Rules:

◆ Note the **beginning of the line and ending of the line**, you want to measure.

◆ The **beginning must be in 0.**

◆ Look at the **other end of the line** and note where it falls on.
That number is your **measurement in centimeter**.

◆ If the **end of the line doesn't land exactly on a centimeter mark, there are smaller markings between the centimeters called millimeters**. Count the number of mm past the whole cm mark.

◆ Write down the length of the line in centimeter. Including any millimeter (Divide 10)if you used them.
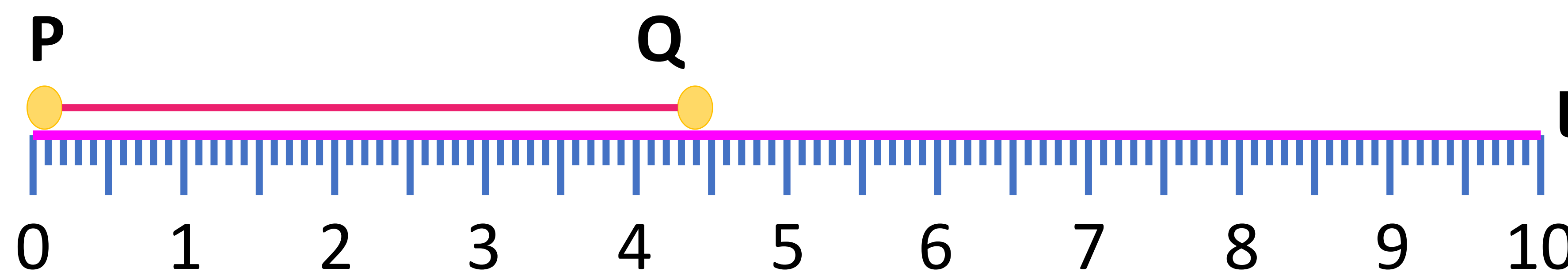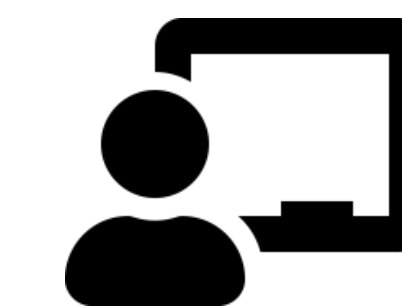
Example:

5.3

cm   mm

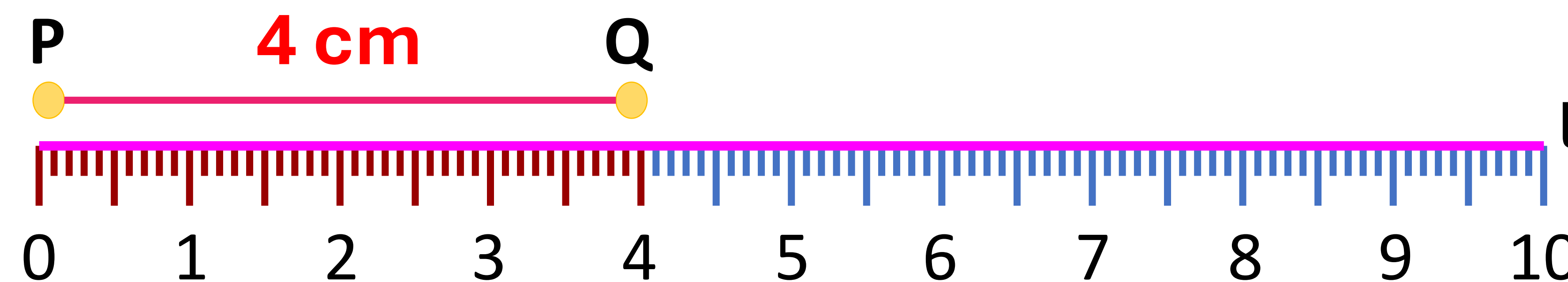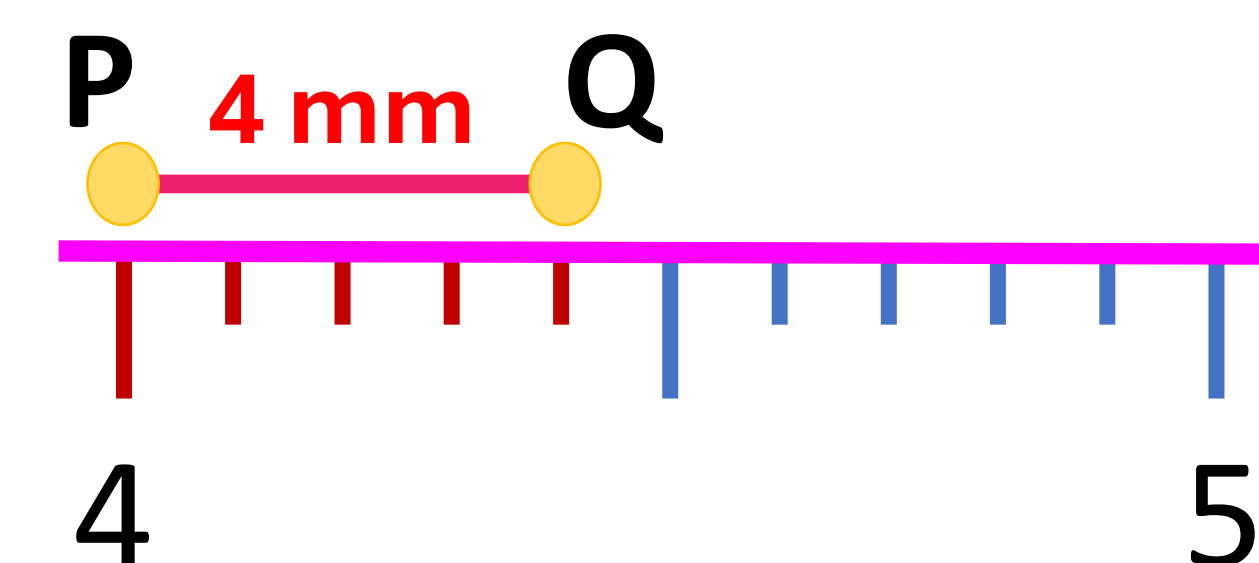# Measure the length PQ ?

(**l** -length)

Solution:
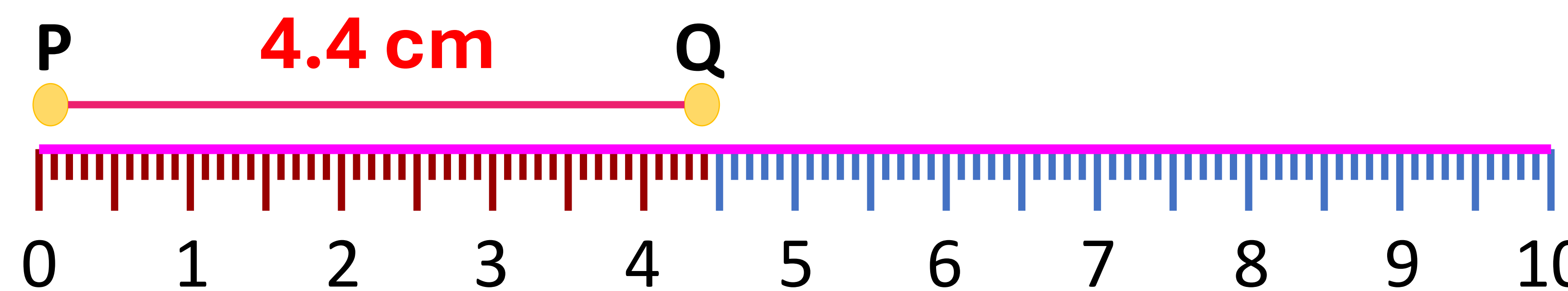
The beginning of the line(P) is at 0.

The end of line(Q) crossed 4 but didn't reach 5. So, therefore, it is denoted by **4 cm.**

After 4 cm, the line passed 4 small lines. Therefore, it is denoted by **4 mm**.
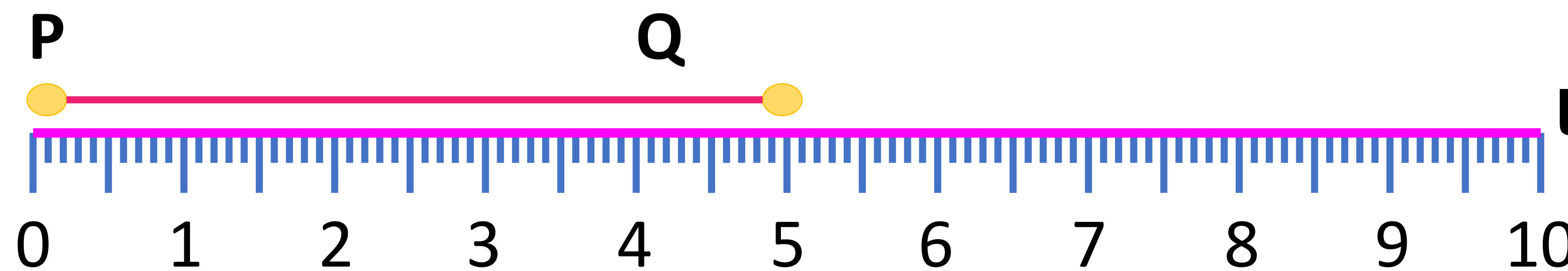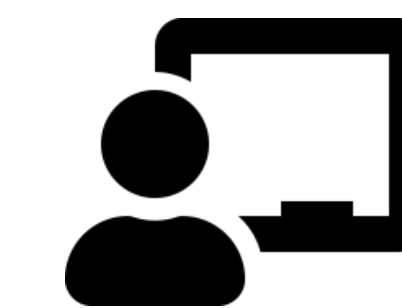
The length of the line segment is
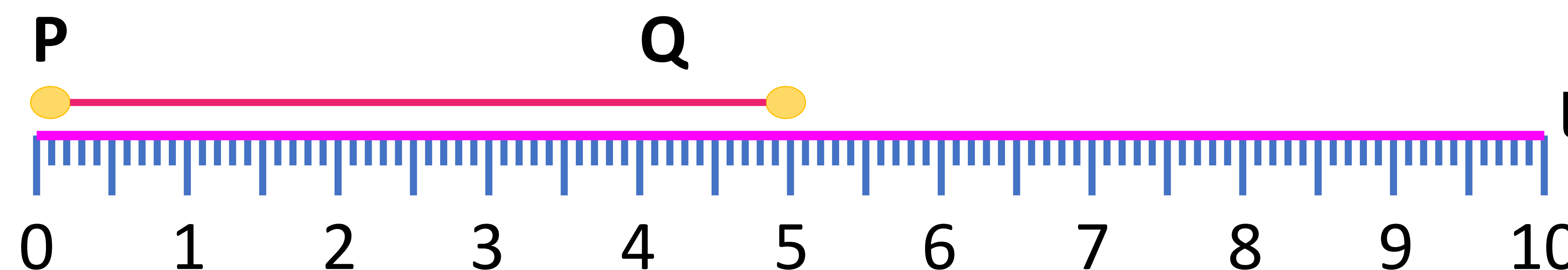**PQ is 4.4 cm**

Measure the length PQ ?

(**l** -length)

P   Q

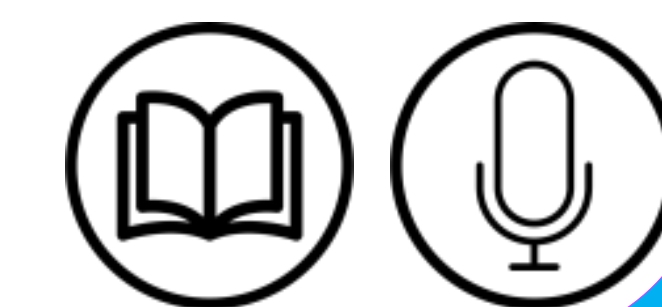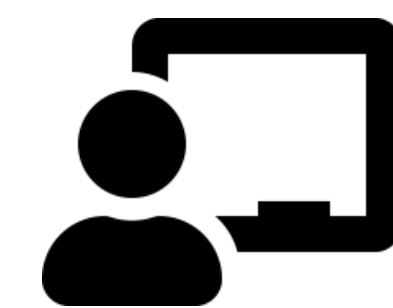0   1   2   3   4   5   6   7   8   9   10

Solution:

The beginning of the line(P) is at 0.

The end point of the line(Q) is at 5. therefore, it is denoted by **5 cm.**

P   Q

0   1   2   3   4   5   6   7   8   9   10
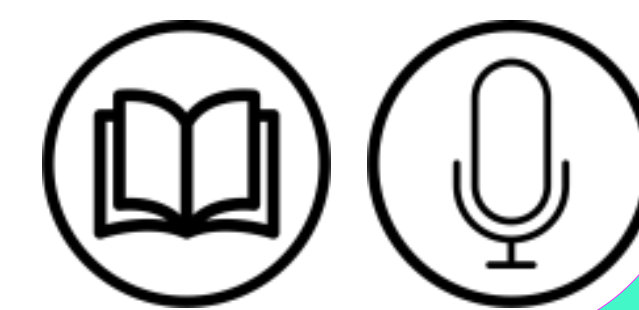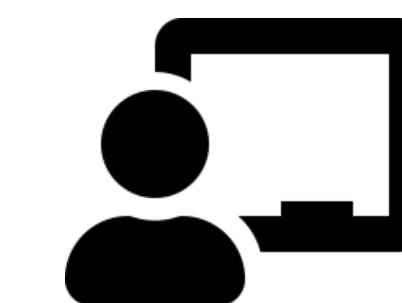
The length of the line segment is **PQ is 5 cm**

Draw line segments of given length

Draw a line segment of length PQ = 4.2 cm using ruler.

Solution:

Step: 1
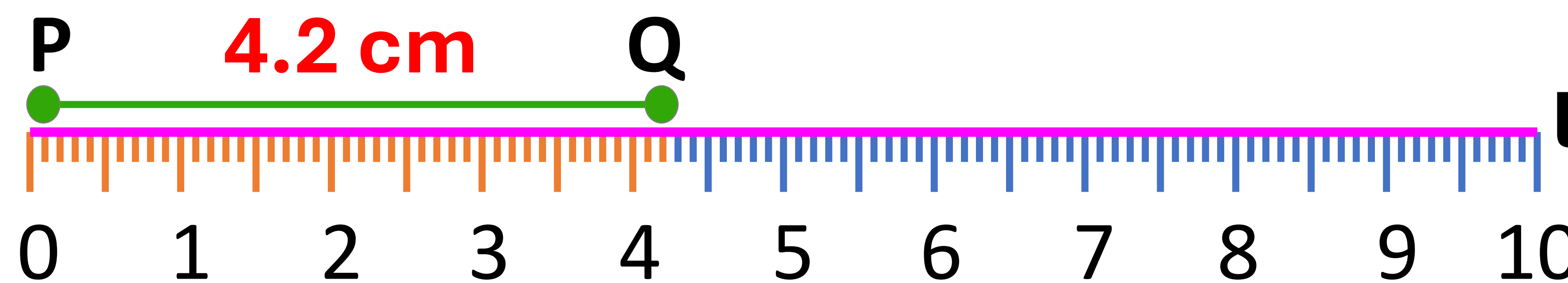
Draw a line '**l**' and mark a point '**P**'

P

Step: 2

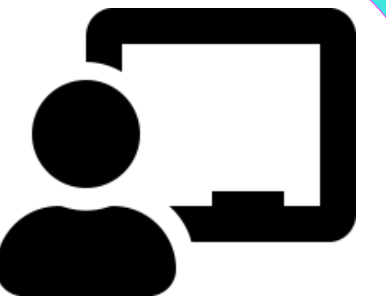Measure 4.2 cm using ruler as placing the pointer at '0'
and the pencil pointer**(Q)** at 4.2 cm

P   **4.2 cm**   Q

0   1   2   3   4   5   6   7   8   9   10

Step: 3

PQ is the required line segment of length **4.2 cm**

P   **4.2 cm**   Q

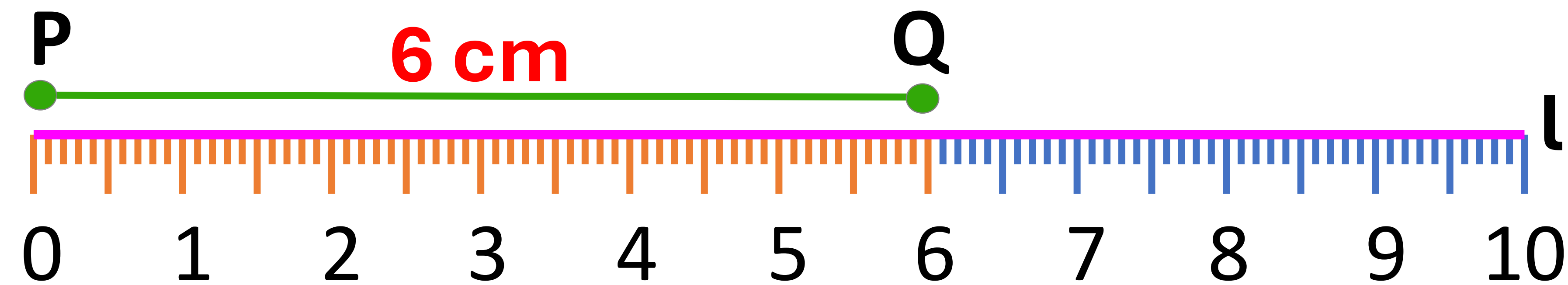**Draw a line segment of length PQ = 6 cm using ruler.**

Solution:

Step: 1

Draw a line ' **l** ' and mark a point ' **P** '

P

Step: 2

Measure 6 cm using ruler as placing the pointer at ' 0' and the pencil pointer **(Q)** at 6 cm

P   **6 cm**   Q

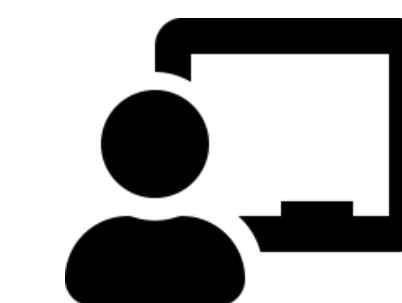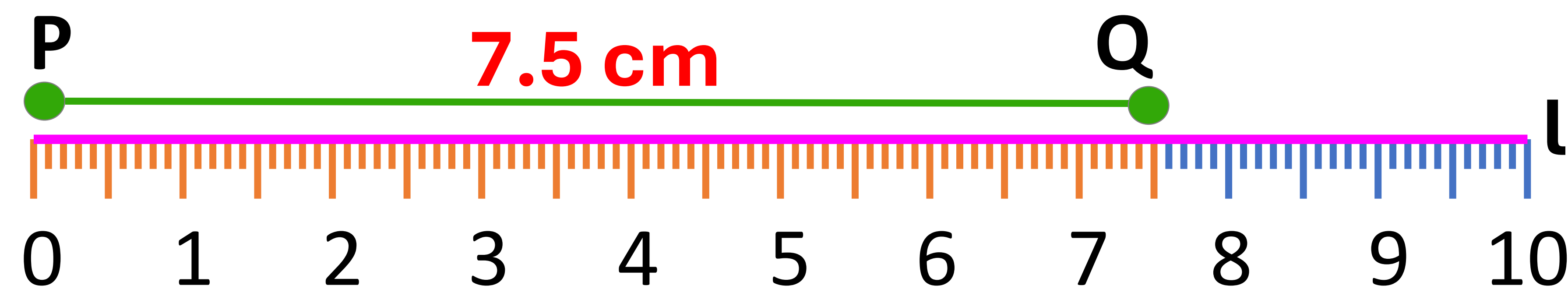0 1 2 3 4 5 6 7 8 9 10

Step: 3

PQ is the required line segment of length **6 cm**

P   **6 cm**   Q

Draw a line segment of length PQ = 7.5 cm using ruler.

Solution:

Step: 1

Draw a line ' **l** ' and mark a point ' **P** '

P

l

Step: 2

Measure 7.5 cm using ruler as
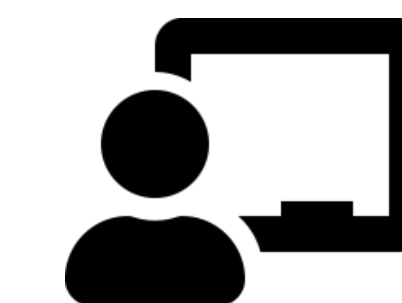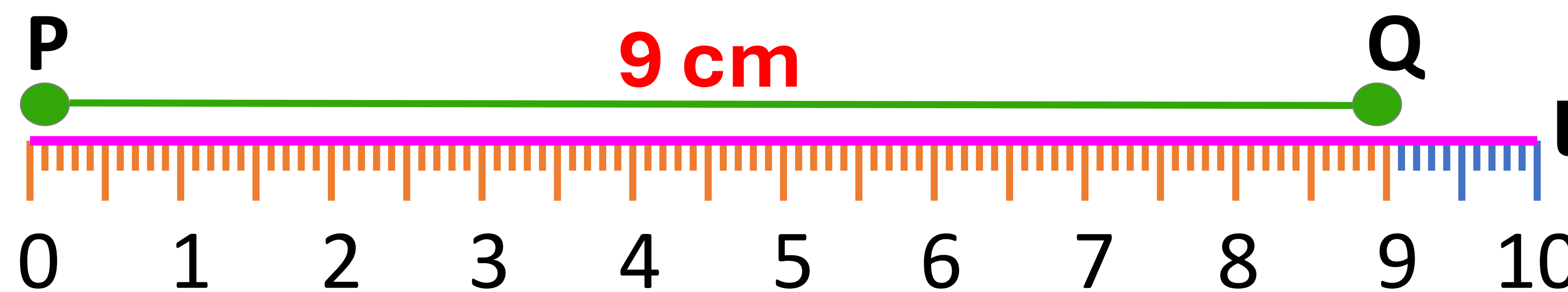placing the pointer at ' 0'
and the pencil pointer **(Q)** at 7.5 cm

P   7.5 cm   Q

l

0 1 2 3 4 5 6 7 8 9 10

Step: 3

PQ is the required line segment
of length **7.5 cm**

P   7.5 cm   Q

Draw a line segment of length PQ = 9 cm using ruler.

Solution:

Step: 1

Draw a line ' **l** ' and mark a point ' **P** '

P

Step: 2

Measure 9 cm using ruler as placing the pointer at ' 0' and the pencil pointer **(Q)** at 9 cm

P **9 cm** Q

l

0 1 2 3 4 5 6 7 8 9 10
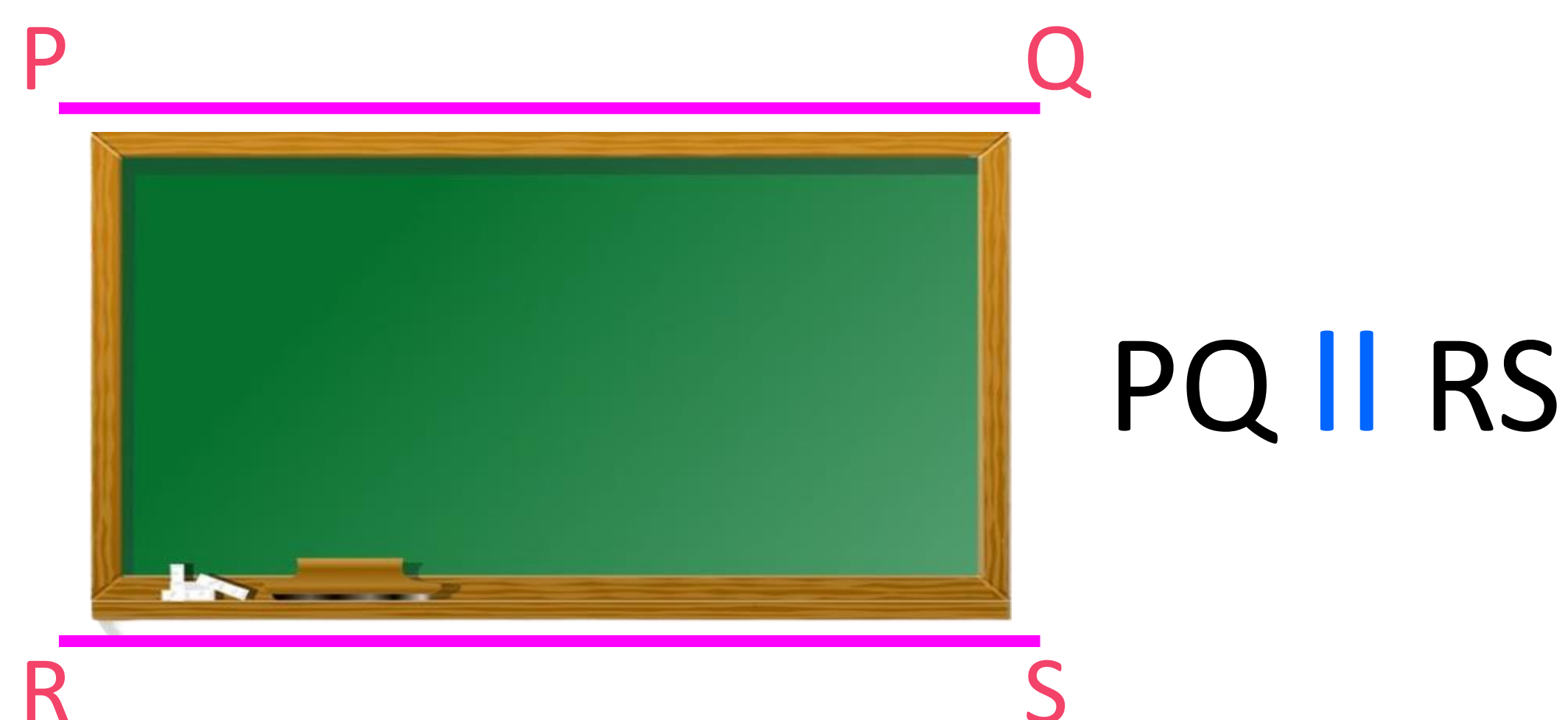
Step: 3

QR is the required line segment of length **9 cm**

P **9 cm** Q

Parallel lines
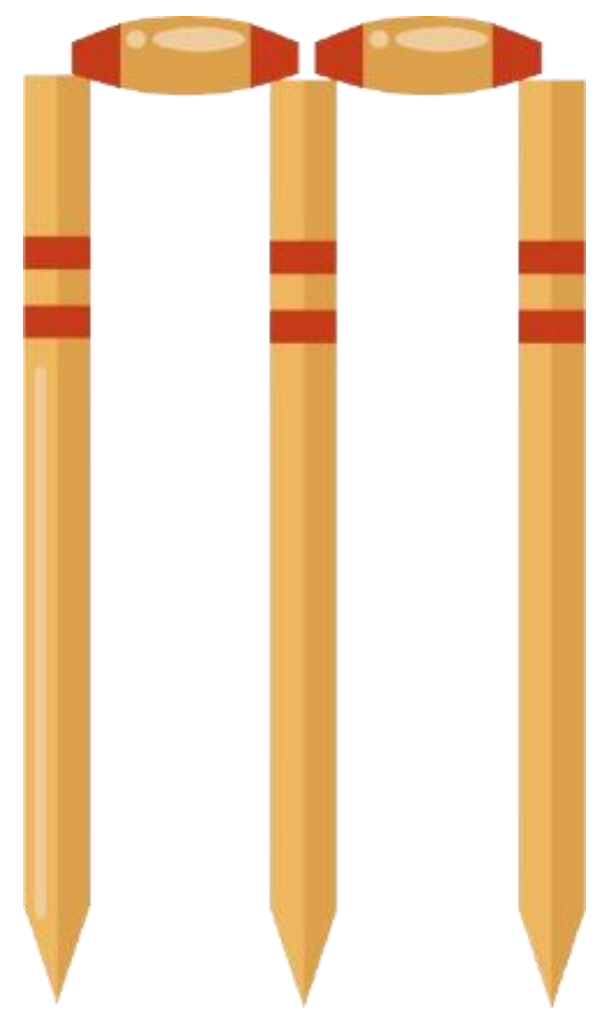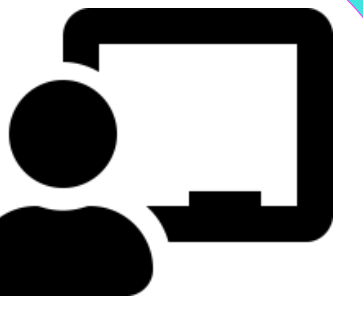
★ The lines that never intersect and are equidistant are parallel.

★ The slope of parallel lines is always equal.

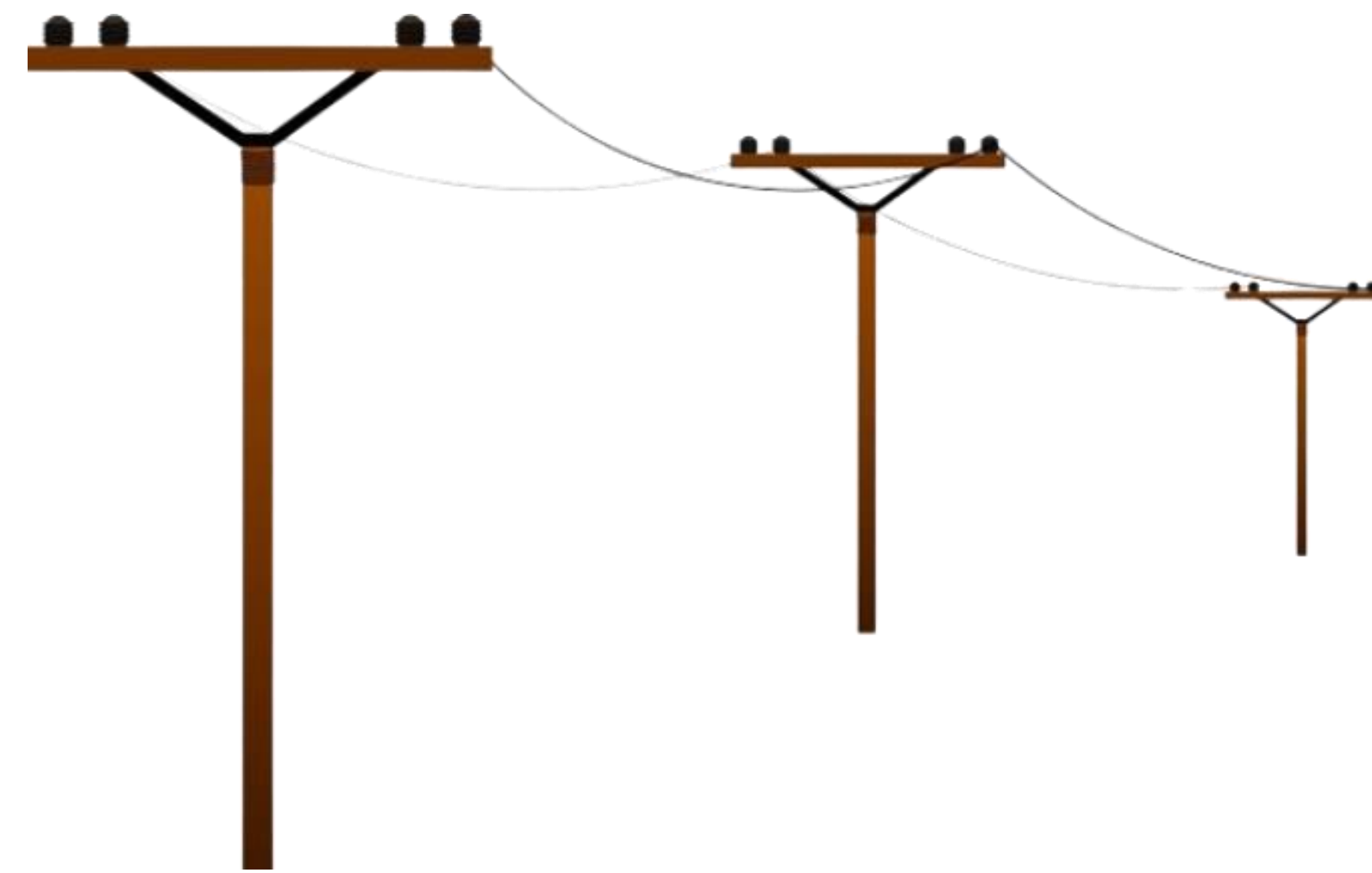★ The symbol for **parallel line** is ‖

★ It is denoted by AB ‖ CD

A

C

B

D
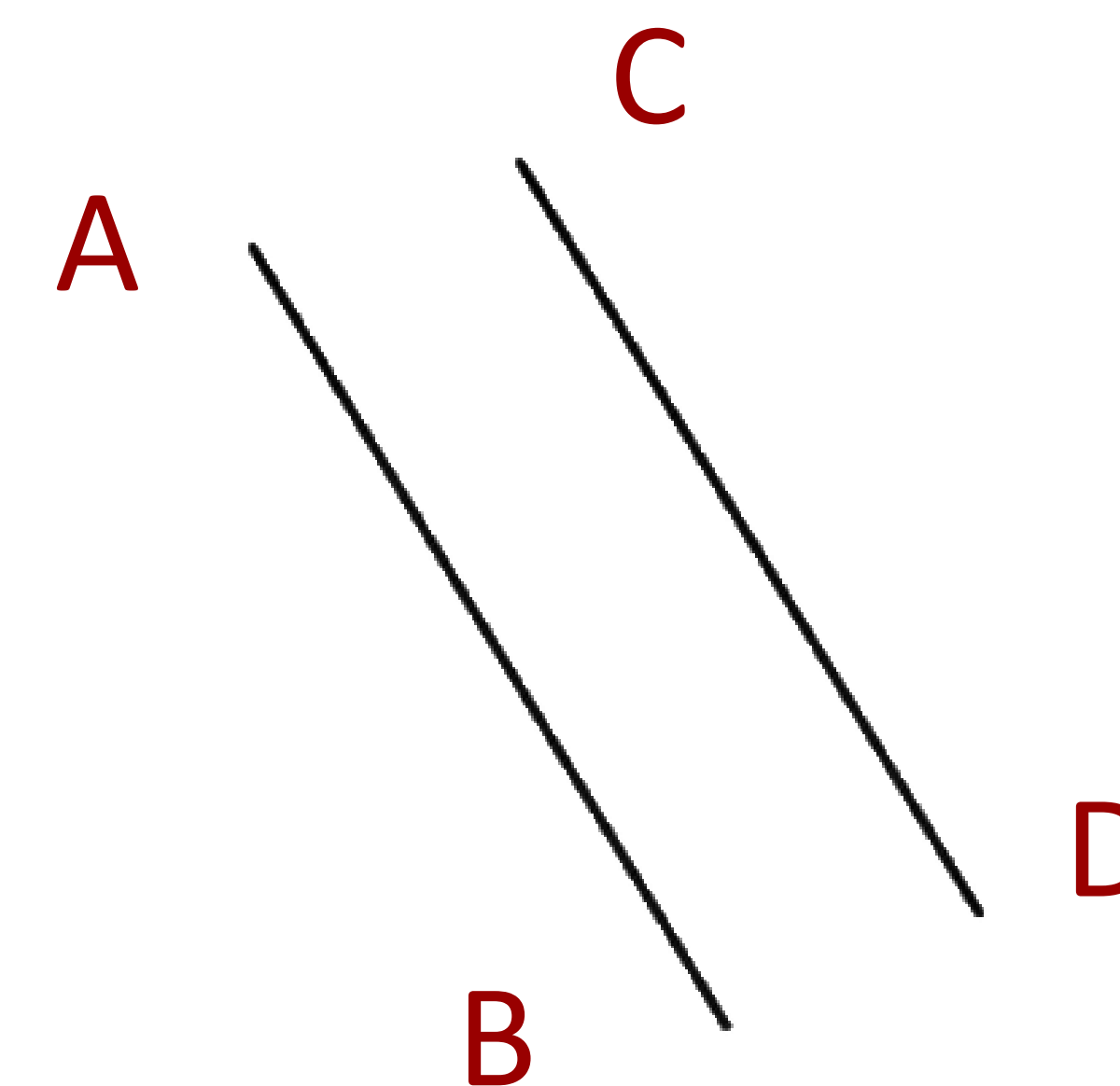
Example of parallel lines

P   Q

PQ ‖ RS

R   S

X   M

XY ‖ MN

Y   N

11
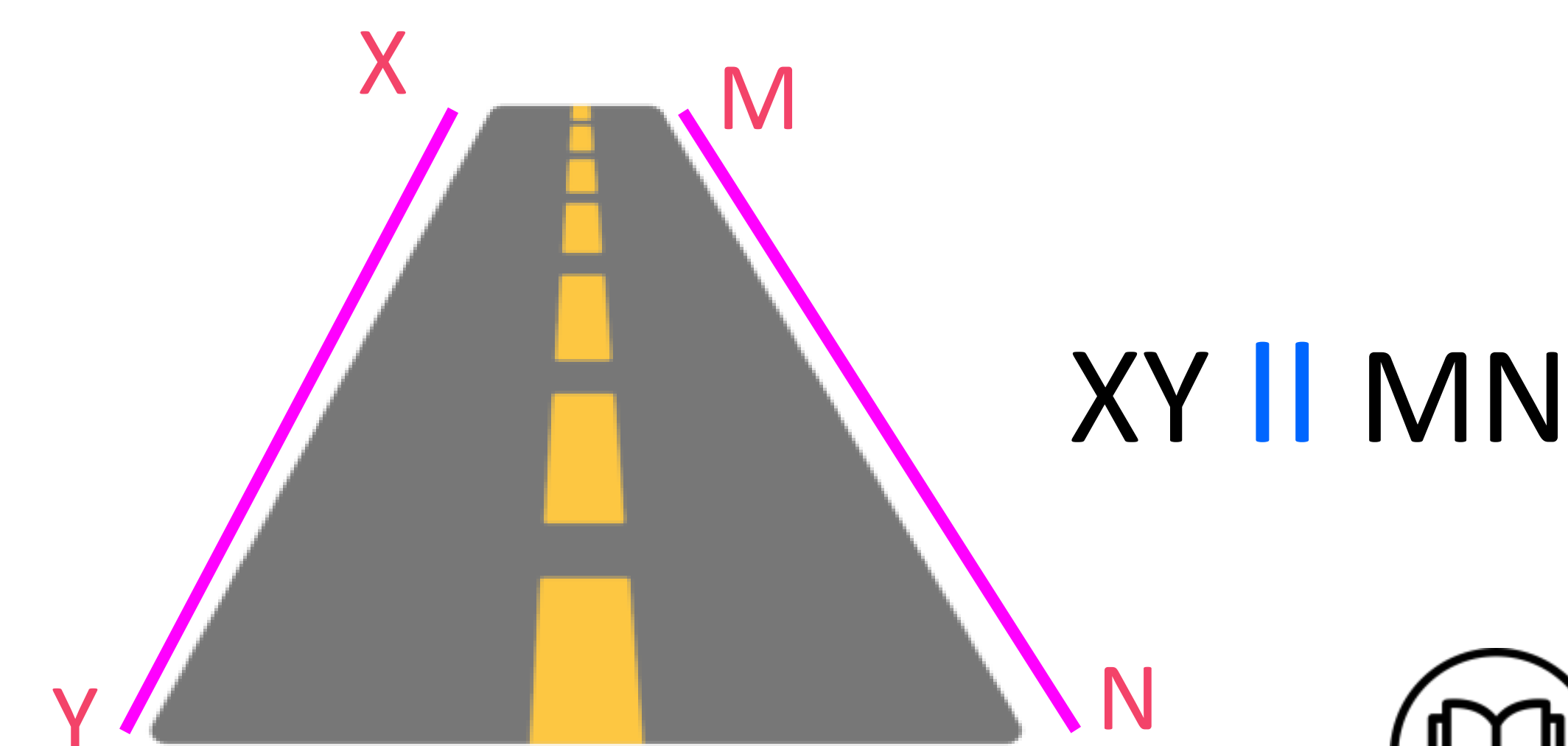
Real life examples of parallel lines

Stumps

Powerlines
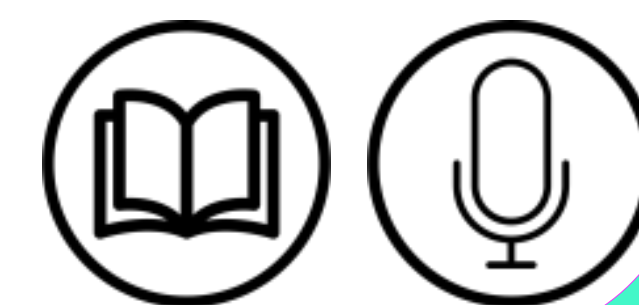
Ladder

Phone

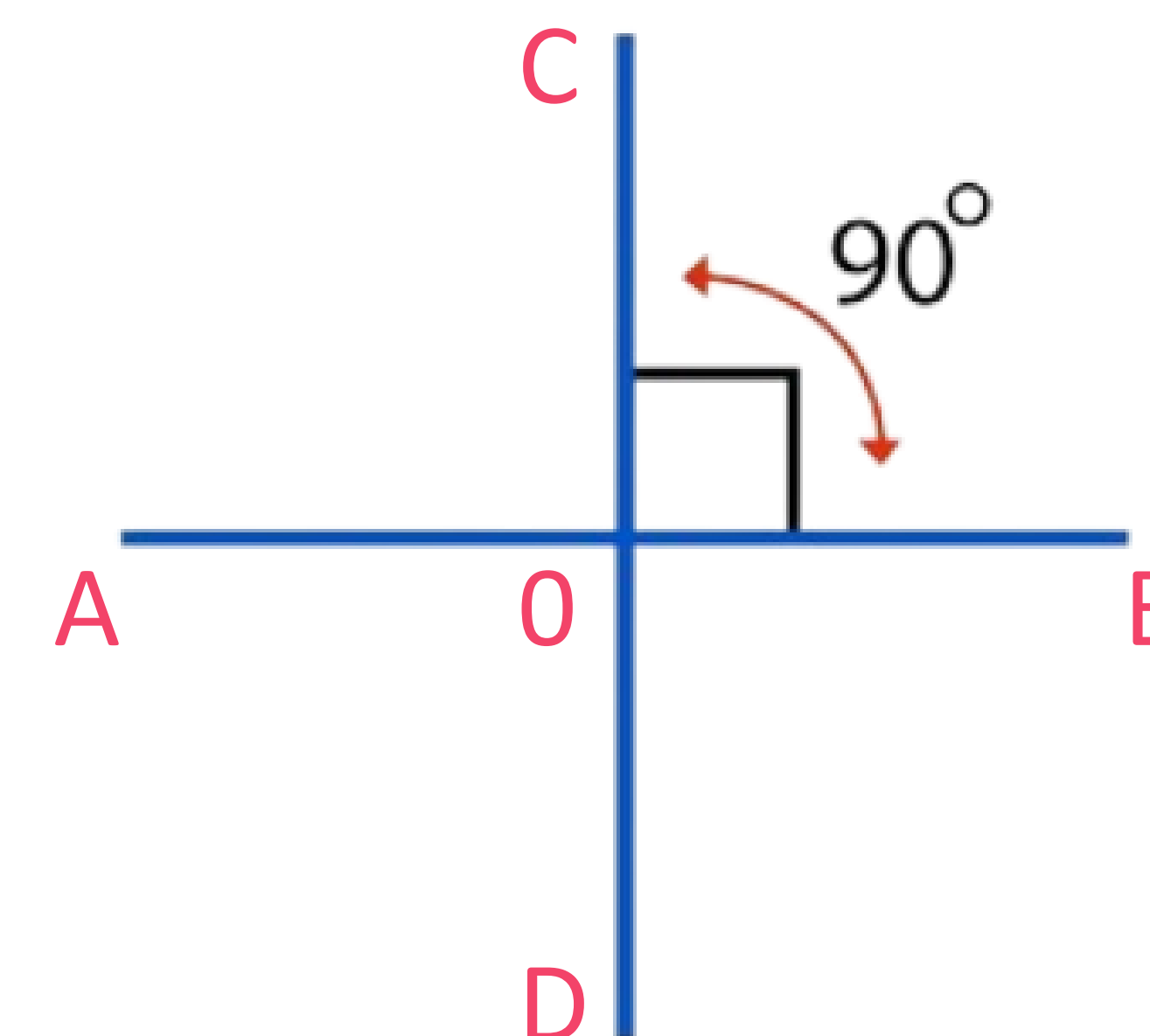**Door**

Bridge

Escalator
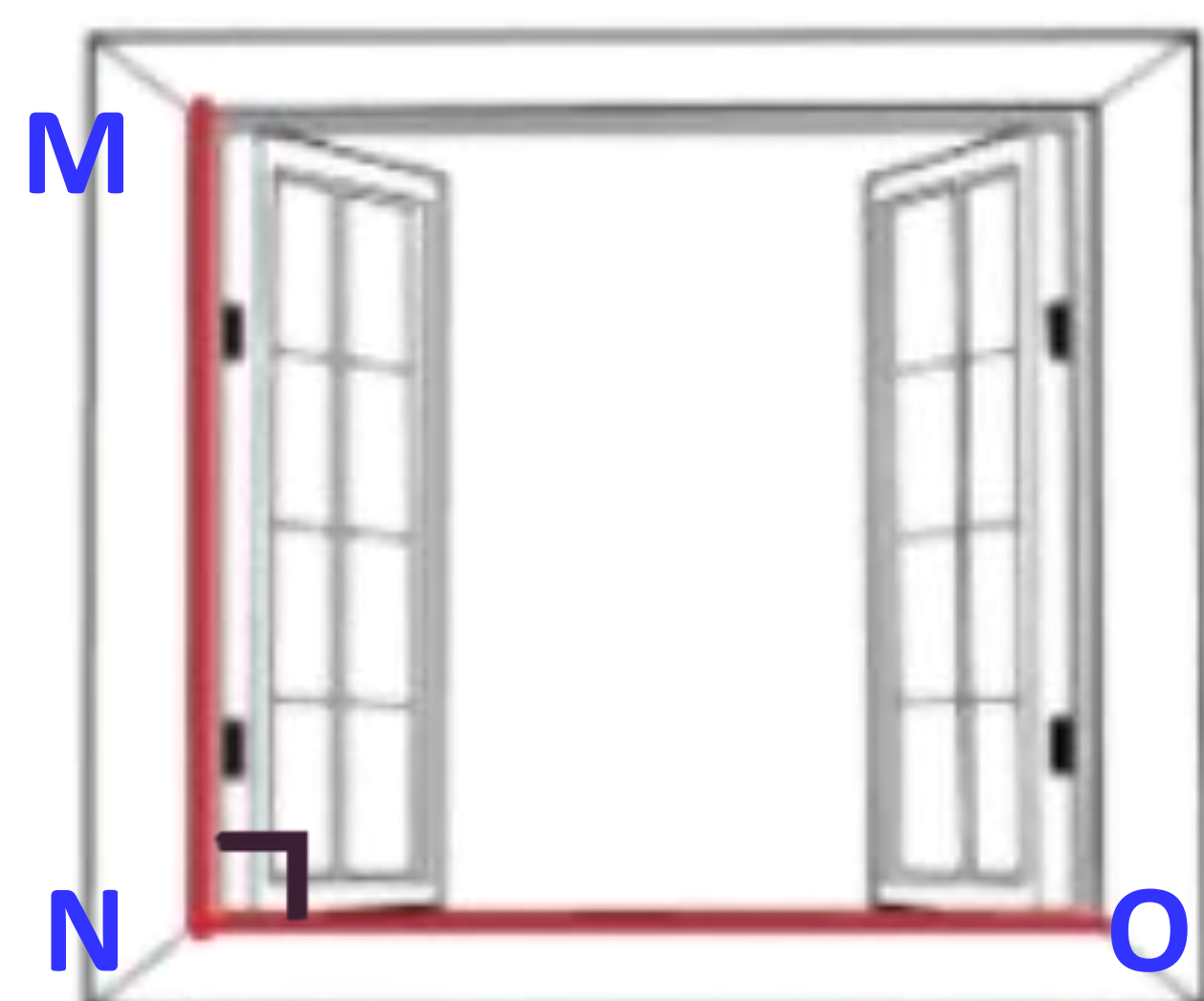
Perpendicular line

What is **perpendicular lines**?

★ The lines which make right angles at the point of intersection are perpendicular.

★ If two lines are perpendicular to each other, the angle between them will be 90°

★ The symbol for **perpendicular lines** is ⊥

★ It is denoted by AOB ⊥ COD

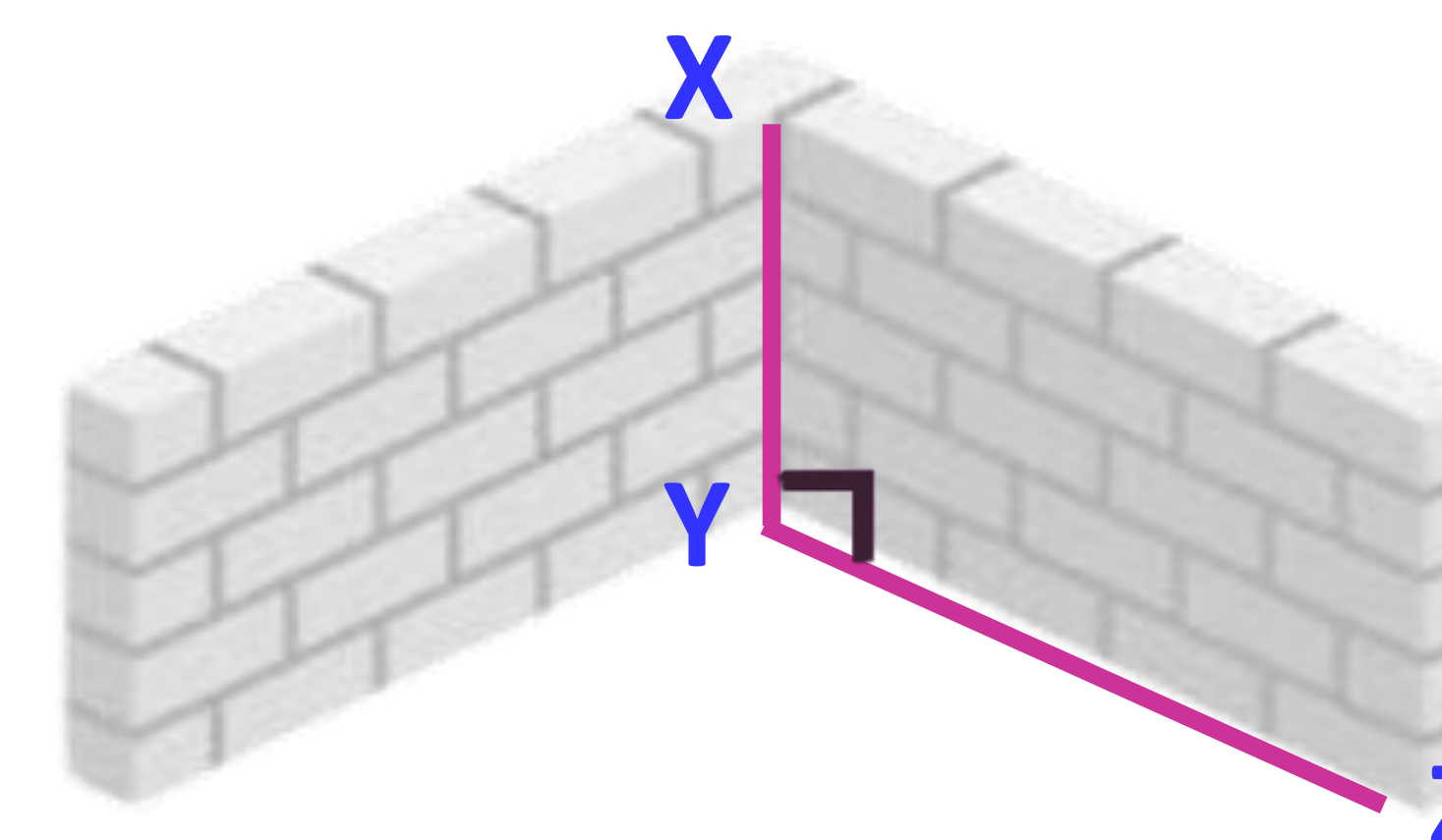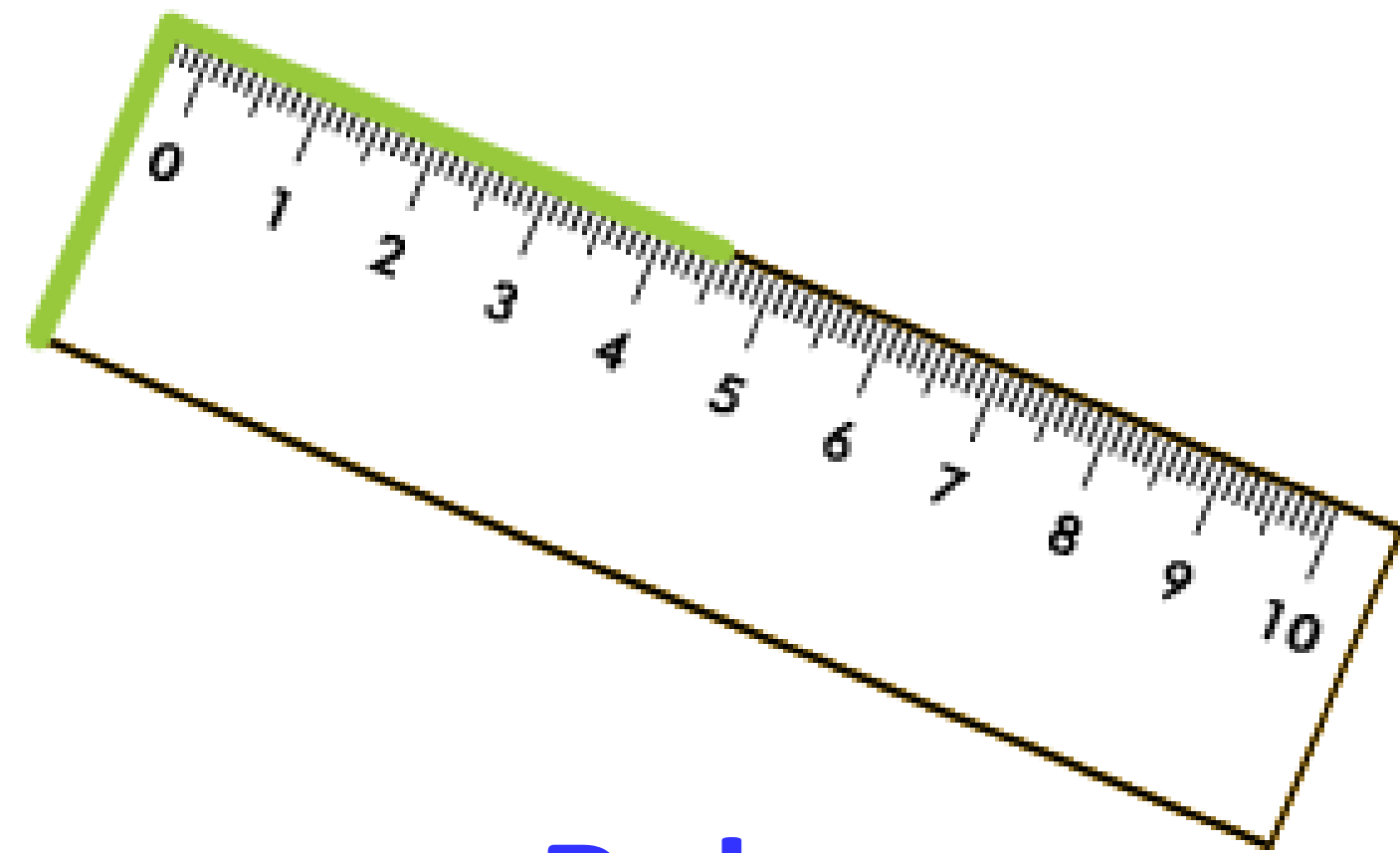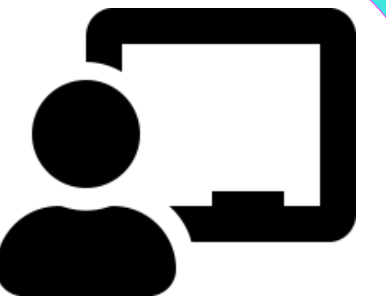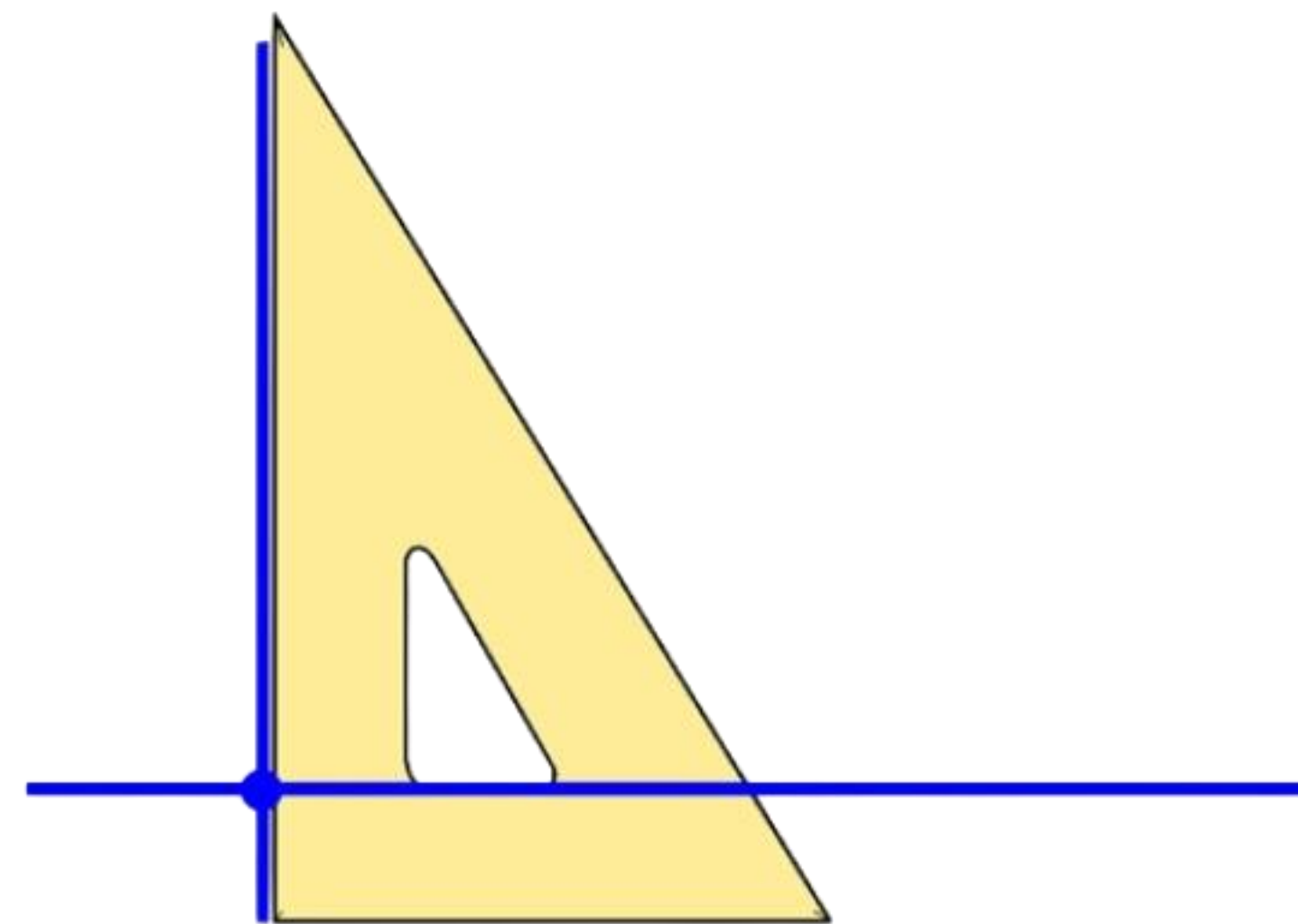## Example of perpendicular lines

MN ⊥ NO

PQ ⊥ QR

XY ⊥ YZ

14

Ruler
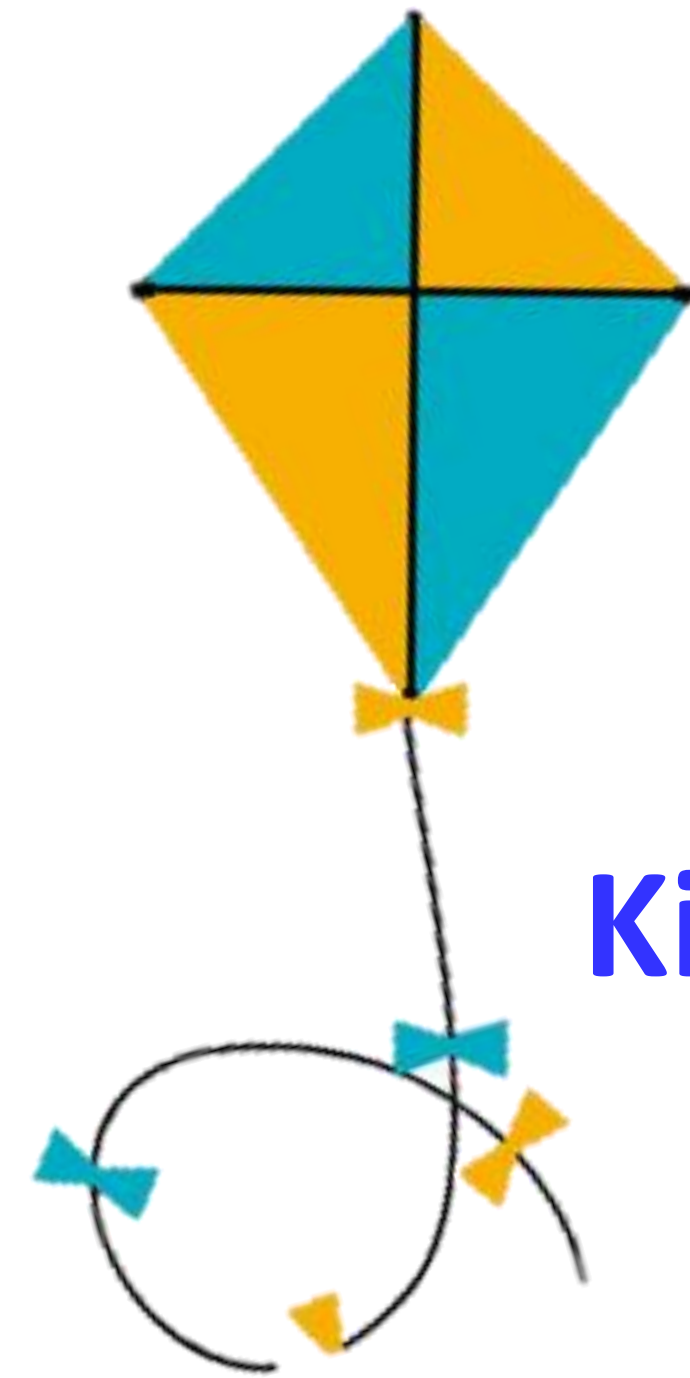
Kite
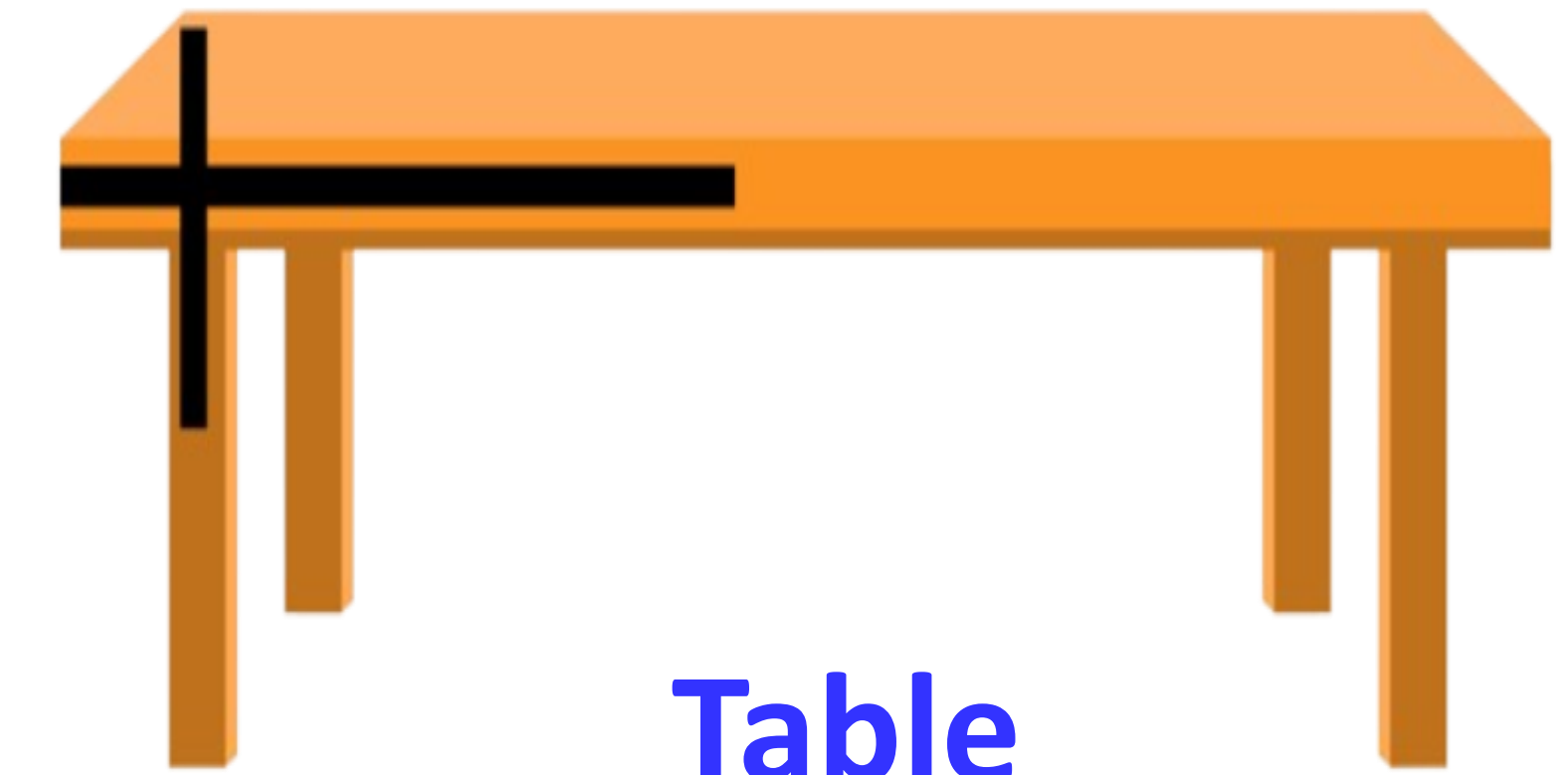
Table

Trigonometry

Stairs