



Class 9 Maths – Chapter 1

Orienting Yourself: The Use of Coordinates



Exercise 1.1 – Solutions

Exercise 1.1 is based on Reiaan's room and the use of coordinates to locate the doors and measure their widths.

Question 1

The figure shows Reiaan's room with points **O**, **A**, **B** and **C** marking its corners. The **x-axis** and **y-axis** are marked, and **O** is the origin.

(i) If D_1R_1 represents the door to Reiaan's room, how far is the door from the left wall (the **y-axis**) of the room? How far is the door from the **x-axis**?

Answer:

From the figure, $D_1 = (8, 0)$.

- Distance of the door from the **y-axis** = **8 units**
- Distance of the door from the **x-axis** = **0 units**

The door lies on the **x-axis**.

(ii) What are the coordinates of D_1 ?

Since D_1 lies **8 units to the right of the origin** and directly on the **x-axis**:

$D_1 = (8, 0)$

(iii) If R_1 is the point $(11.5, 0)$, how wide is the door?

Given:

$D_1 = (8, 0)$

$R_1 = (11.5, 0)$

Since both points lie on the x-axis:

$$\text{Width} = 11.5 - 8$$

$$\text{Width} = 3.5 \text{ units}$$

Therefore, the door is **3.5 units wide**.

A door of this width is considered comfortable, and the question also asks students to think about its suitability for wheelchair access.

(iv) If $B_1 = (0, 1.5)$ and $B_2 = (0, 4)$ represent the ends of the bathroom door, is the bathroom door narrower or wider than the room door?

Bathroom door width:

$$= 4 - 1.5$$

$$= 2.5 \text{ units}$$

Room door width:

$$= 3.5 \text{ units}$$

Since:

$$2.5 < 3.5$$

 **Answer:**

The **bathroom door is narrower** than the room door by **1 unit**.



Quick Answer Key

Question

Answer

1(i) 8 units from y-axis; 0 units from x-axis

1(ii) $D_1 = (8, 0)$

1(iii) Door width = **3.5 units**

1(iv) Bathroom door = **2.5 units**; it is **narrower**